FEEDSTUFFS®

★ A WEEKLY NEWSPAPER ★

FOR THE FEED MANUFACTURER, JOBBER, BROKER and DEALER

Volume 30—Number 35 | AUGUST 30, 1958 | 1 Year $4, 2 Years $7

USDA Estimates 4% Reduction In 1958 Turkey Crop

WASHINGTON—About 78 million turkeys are being raised this year—4% less than in 1957, according to a preliminary estimate of the U.S. Department of Agriculture crop reporting board.

The report mentioned a 3% reduction in heavy breeds and a 9% reduction in light breeds compared with 1957, and that prices received by farmers for turkeys March through July averaged 9% above the same months in 1957, while feed prices averaged 1% higher.

Some Washington observers say that the school lunch procurement program—this week government turkey purchasing amounted to 1.4 million pounds—can take the edge off retailer volume buying ideas which would make seasonal-end turkeys the price target for the consumer.

Price Outlook

Officials at USDA top levels are now saying that prices for turkeys will not "saucer out" in the immediate period ahead. (This "saucer-out" expression has been stolen from the space men. What they mean is

(Turn to TURKEY CROP, page 79)

Moorman Mfg. Co. Acquires Second West Coast Mill

QUINCY, ILL.—Moorman Mfg. Co., Quincy, has announced the purchase of the Ambler Milling Co., San Gabriel, Cal., a southern California producer of poultry, dairy and rabbit feeds.

It was the second purchase of a California feed milling firm in the past six months by Moorman's. The Quincy firm in March purchased the Bell Grain & Milling Co. with plants in Pomona and Escondido, Cal.

E. H. Wilson, president of Moorman's, made the announcement. In commenting on the purchase, he said, "Further production facilities were needed to relieve the overload on our Pomona plant caused by the increased demand for mixed feeds for poultry."

The Pomona plant, along with the plant at Escondido, are being continued under the name of Bell Grain & Milling Co. Mr. Wilson indicated that the increased production capacity will make it possible to manufacture a broader range of products to serve more customers on the West Coast.

The announcement said the Ambler operation will be operated separately from the Moorman organization. It will have the same board of directors as that of the Bell company, with the addition of Robert N. Mathes.

Board members of the Ambler operation are Robert B. Hulsen, Paul E. Cory, Victor Cory and Claude Holmes of the Moorman Mfg. Co.; T. D. Griffin and William Story of the Bell company, and Mr. Mathes.

Allied Mills Reports Record Feed Sales, Bright '59 Outlook

CHICAGO—Greater formula feed sales than in any other year of its history have been reported for the fiscal year ending June 30, by officers of Allied Mills, Inc., manufacturers of Wayne Feeds.

In the annual letter to shareholders, Elmer W. Lenz, president and treasurer, and Leo T. Murphy, chairman of the board and vice president, pointed out that "it seems reasonable to expect that our tonnage of concentrates will continue to increase during the coming year."

Net sales rose to $97,933,774 last

(Turn to ALLIED MILLS, page 8)

Firmer Additive Control Seen in New FDA Bill

WASHINGTON—Some changes in the way Food and Drug Administration regulatory powers will be applied to feeds will develop as a result of passage of food additive control amendments to the Federal Food, Drug and Cosmetic Act.

The bill was passed by Congress last week, and it is expected to be signed by President Eisenhower shortly.

Officials are not as yet prepared to elaborate on possible application of the new law to the feed industry, although some general observations can be made at this time. The bill, resulting from some eight years of efforts from various quarters, including FDA officials, primarily is intended to strengthen control over addition of materials to food or feeds which could prove harmful.

Officials point out that there is no cause of alarm within the feed industry concerning application of the law's provisions.

Pre-Testing Required

Basically the amendment provides for pre-testing of new additives and submission of data to prove harmlessness before they may be included in food or feeds. Under current legislation, no such provision is made except for materials falling into the antibiotic or new drug provisions of the law.

Primarily affected by the new law will be other additives, including such chemicals as antioxidants. Regulatory power over these products up to now has been maintained under the general provisions of the control act.

The new provisions, according to Ralph F. Kneeland, Jr., assistant to the director of the Bureau of Enforcement for FDA, and also president of the Association of American Feed Control Officials, will in many respects allow more flexibility in ad-

(Turn to FDA BILL, page 75)

USDA Reports Numbers of Meat Animals Increasing

WASHINGTON—Meat animal production is increasing and, depending on the feed supply picture, 1959 will begin to reflect the situation in increased meat output, according to the U.S. Department of Agriculture in its latest livestock and meat situation report.

Based on data through July, the inventory of cattle and calves on farms by Jan. 1, 1959, could be up 2 million head or more; the anticipated 14% increase in fall farrowings will begin to make itself felt, and the 4% increase in 1958 lamb production also evidences further expansion in sheep production, the department reported.

An increase in productiveness of the national beef herd is the biggest source of increased beef output, relative to population, said USDA. This increase arises from three factors: Shifts to beef type cows resulted in more beef than milk cows on farms by 1958; breeding of beef cows has been improved since 1949 and, even more importantly, a higher percentage of the annual calf crop has been raised and fed to maturity.

More Feeding

This third factor, the feeding of more calves to maturity largely through expanded feeding operations, has been the biggest single factor adding to the productiveness of the cattle herd, USDA said. As a result, slaughter of calves has been rather small and that of cattle has been large. This year's slaughter of steers will total about 40 to 45% greater than the average for 1949-51. Heifer slaughter has more than doubled since those years, and feeding of more beef heifer calves to maturity has been a striking trend of the last several years.

Since more cattle are now fed to

(Turn to MEAT ANIMALS, page 8)

Annual Feed Output by 1975 Estimated at 70 Million Tons

DES MOINES—A 70-million-ton annual production of formula feeds and an 870-million-bushel soybean crop by 1975 were predicted here in an address prepared by Ray E. Rowland, president of Ralston Purina Co., St. Louis.

As a representative "of both the feed manufacturing business and the soybean business," Mr. Rowland made the prediction in a talk delivered at the annual convention of the American Soybean Assn. held Aug. 19-20 at Hotel Fort Des Moines.

His talk was one of several which predicted a bright future for the soybean industry if overseas markets can continue to be developed. Ways to develop those markets were the major subject of the meeting as speakers from foreign countries shared the platform with U.S. marketing experts and others connected with the industry.

Twenty-three states, Canada, Japan, Turkey, Italy, Spain and England were represented. Visitors included two teams from the Spanish livestock feed and vegetable oil industries and the Italian livestock feed industry.

Finding markets for the soybean oil to be produced in coming years will be the big problem, Mr. Rowland pointed out. Rapidly growing feed demand for the meal will bring a surplus of oil.

Feeder Is Important

"How Big Can the Soybean Industry Get?" was the title of his address. The answer to the question is the feeder, he said.

"He is the man who is going to determine how big we, the entire soy-

(Turn to FEED OUTPUT, page 75)

FEEDSTUFFS *Features This Week*

POULTRY SCIENCE: Dr. Elton Johnson reviews research reports presented at the Poultry Science Assn. sessions on **page 8.**

FEED MIXING: An article on **page 26** tells how a Pennsylvania feed firm boosted capacity, efficiency and accuracy with a new automatic feed mixing unit.

MERCHANDISING: How customer service built volume for an Ohio dealer is described on **page 32.**

SWINE FEEDING: A view of likely future developments in swine feeding is given on **page 38.**

— REGULAR FEATURES —

Putting Research to Work	18	Joe Brooks	56
Feed Service Bulletin Board	30	Convention Calendar	60
Camera Views	50	Up or Down	73
Worth Looking Into	52	Feed Markets in Detail	76

FEEDSTUFFS

A Weekly Newspaper Published by
THE MILLER PUBLISHING CO.
2501 WAYZATA BLVD., MINNEAPOLIS, MINN.
(Address Mail to P. O. Box 67, Minneapolis 40, Minn.
(Telephone: FRanklin 4-5200. All Offices Serviced by Bell System Teletype)

EDITORIAL STAFF—George L. Gates, Editor; Roger Bergiund, Managing Editor; John Cipperly, Washington Correspondent; Emmet J. Hoffman, Merchandising Editor; John S. Franklin, James E. Sharon and James H. Ross, Editorial Assistants; Duane F. McKenzie, Research Director.

WASHINGTON CORRESPONDENT—John Cipperly, 604 Hibbs Building, Washington, D. C., Telephone, Republic 7-8534.

ADVERTISING STAFF—Wilfred E. Lingren, Advertising Director; Carl R. Vetter, Advertising Department Manager; Bruce A. Kirkpatrick, Advertising Production Manager; Leland C. Hubert, Assistant Advertising Production Manager; R. Dale Swenson, Promotion Manager.

BUSINESS STAFF—Martin E. Newell, Chairman of the Board of Directors; Milton B. Kihlstrum, President and Treasurer; Wilfred E. Lingren, Executive Vice President; Don E. Rogers, Vice President; Paul L. Dittemore, Vice President; Donald G. Neth, Secretary; T. A. Gaden, Circulation Manager; James G. Pattridge, Assistant Treasurer; Richard L. Ostlund, Office Manager; Walter O. Buchkosky, Production Superintendent.

BRANCH OFFICES—SOUTHWEST, Martin E. Newell, Manager; Thomas E. Letch, Assistant Manager, 612 Board of Trade Bldg., 1005 Wyandotte St., Kansas City 5, Mo. (Tel. Victor 2-1350); EASTERN STATES, Paul L. Dittemore, Manager; George W. Potts and James W. Miller, Advertising Sales Representatives, Suite 3214, 551 Fifth Ave., New York 17, N. Y. (Tel. Murray Hill 2-2185); CENTRAL STATES, Don E. Rogers, Manager; Henry S. French, Assistant Manager; Amos W. Standish, Advertising Sales Representative, 2832 Board of Trade Bldg., 141 W. Jackson Blvd., Chicago 4, Ill. (Tel. Harrison 7-6782); NORTHWEST, Paul A. Anderson, Advertising Sales Representative, P. O. Box 67, Minneapolis 40, Minn. (Tel. Franklin 4-5200).

Correspondence regarding subscriptions, changes of address, etc., should be sent to Circulation Manager, Feedstuffs, Box 67, Minneapolis 40, Minn. Single copies 20¢. Subscription rates: One year $4, two years $7, in the U.S., U.S. possessions, Canada and Pan-America. Add $3 a year for postage to other countries. Readers are urged to give prompt notice of change of address and to anticipate future changes by at least two weeks' advance notice. Ask postman for form 22-S. Feedstuffs accepts subscriptions only through its own offices; no subscription solicitors are employed or recognized. Associated publications: The Northwestern Miller, The American Baker, Milling Production, Croplife, Farm Store Merchandising.

Entered as second-class matter Feb. 25, 1947, at the post office at Minneapolis, Minn., under the Act of Mar. 3, 1879

The regional circulation of this issue is concentrated in the southwestern states

More Layers in Prospect

NOT AS COMPLEX as the beef situation but probably more important to more feed men is the outlook for egg prices and the size of the nation's laying flock in coming months.

The sharp increase in the late season hatch over last year has changed quite significantly the earlier estimates of the number of layers expected to be on hand next January. The numbers will be up at least 5% and very probably more than that. This estimate was made prior to release of information on the July hatch (Feedstuffs, Aug. 23).

Through April, the 1958 hatchings of chicks for laying flock replacements had been 7% above January-April, 1957. Since there were so many old hens which will have to be replaced, an increase of hatchings of almost that percentage could have been accommodated without expanding the 1958-59 laying flock, commented Edward Karpoff, USDA agricultural economist.

In May, however, hatchings went 23% over May a year earlier, and in June, hatchings were 40% over the previous June. In July, the increase over the same month a year ago zoomed to 51%. It is now calculated that production of replacement chicks was 13% greater through July this year than in the first seven months of last year.

MORE CHICKENS, OF COURSE, will lay more eggs, not only because of the larger numbers, but also because of the steady climb in production per bird that has been going on for the past several years.

Earlier, Mr. Karpoff observes, when it had looked like the year-end flock would hardly be larger than last year, the increased number of eggs would have barely kept up with the population increase. Egg prices, consequently, were expected to close the year almost up to the favorable level of a year earlier. Now its seems most likely that year-end egg prices will fall noticeably short of the 44.2¢ doz. U.S. average price received by farmers last December.

The extended period of good starter feed business contributed in a large way to feed tonnage the early part of this year, and poultry feed demand should remain good provided feed men can persuade flock-owners not to cut the quality of feed programs when egg prices start to slide.

Beating the Averages

THE U.S. DEPARTMENT OF AGRICULTURE is out with a prediction that cattle prices will be well sustained during a large part of 1959. In view of favorable profits in feeding the past two years and the higher prices for feeder cattle this fall, however, it would be possible for profits in feeding to be reduced sharply this coming season, USDA notes.

This has happened several times in the past in similar situations. The profitable feeding seasons in 1946-47 and 1947-48 were followed by losses in 1948-49. Two more big years followed, and profits narrowed in 1951-52 then disappeared in 1952-53. Profits again were low in 1955-56.

The USDA prediction, included in the current issue of the Livestock and Meat Situation, continues: "It is almost certain that profits in feeding this coming season will be smaller than in the past season. They could be a good deal smaller. The $6 increase in prices of feeder cattle this August over last brings those prices in line with the cyclical upswing in over-all cattle prices. In other words, the cyclical gain in general level of cattle prices has now been incorporated or 'capitalized' in the level of feeder cattle prices."

The conclusion USDA makes is that if fed cattle prices hold up well, margins may be adequate. The upswing of the cycle in cattle numbers is still in its early stages, and the danger of a severe price break and negative feeding margins by next year is small. "In view of low costs of feed, it seems likely that with careful buying of feeder cattle, about average profits could probably be made in feeding this year," the report says.

With this outlook in mind, cattle feeders who want to do somewhat better than average will be looking to ways to make certain that they can put gains on cattle in the most efficient way possible. Some may need reminding that it's the cost per pound of gain that is important in profitable feeding operations and not simply the cost of a good feeding program. The products of the feed industry that have proved valuable in stepping up beef feeding efficiency should be much in demand from feeders who want to beat the averages.

A FEEDSTUFFS FEATURE

FORMULA FEEDS: HOW'S BUSINESS?

Improvement in formula feed demand was felt over most of the nation during the past week. The upturn was slight, but quite general throughout the country with the exception of the East Coast where an uneasy broiler market apparently has affected demand. In other areas, however, hog feed demand showed some increases and pickups in cattle feed sales and turkey feed sales were also noted. The fall increase in egg feed sales was beginning to be felt, although it is still somewhat early for a sharp increase in volume. Mill representatives said dealers inventories are apparently quite well depleted and that the slump of the past few weeks is on its way out. The feedstuff price index for the week was 81.7, compared with 81.9 a week earlier and 78.2 a year earlier. The feed grain index was 69.8, compared with 71.1 a week earlier and 69.6 a year earlier. (Ingredient price details on pages 76-78.)

Northwest

Demand for formula feed was "slightly improved" this week, according to mill representatives. The increase wasn't sharp, they said, but demand was definitely improved and optimism is strong for continued improvement.

Representatives said their order backlogs are building apparently as a result of depleted dealer inventories. Dealers are buying more confidently, it was said, apparently on the belief that the market will not drop lower.

Dairy feeds showed their first general improvement of the summer, although the increase was slight. Turkey feeds and hog feeds are in good volume and there has been a slight bulge in layer feeds as pullets move into the laying houses.

Mills are running on regular schedules after some curtailment during the past week.

Prices are scheduled to be down slightly during the coming week.

Southwest

A pick-up in the formula feed business of the Southwest occurred this week, ending a slump of several weeks' duration. It is possible that the improved pace is because dealers were anticipating the Labor Day holiday. But it is also likely that inventories have been worked down, and with prices now on a lower level than they have been, dealers have started to replenish their stocks to meet consumer demand. Feed mill sales managers are optimistic about business prospects in the weeks ahead.

Mill running time is between 5 and 5½ days, regular shifts. Order backlogs for next week will be good-sized, but mills feel that rather than anticipate the business of next week by running overtime, they will wait and run next Saturday if necessary.

More cattle feed movement is one of the reasons for a better pace this week. Many cattlemen are now feeding on grass with the intention of marketing directly from pastures instead of finishing in lots and taking their chances on the cattle market several months hence. Creep feed is also in improved demand as cattle owners drive to put all the weight they can on calves before they are sold against contracts in another month or so.

Turkey feed volume is large and still getting larger as turkeys develop bigger appetites. Hog feeds continue to move well, with strengthening of the hog market lending more optimism to that picture. Broiler markets also firmed up somewhat and the feed volume is pretty good.

Price lists for next week will be mostly unchanged, although some high protein feeds may be up 50¢ ton and some other feeds may be down 50¢. Soybean meal is up from a week earlier to offset decreases in most other ingredients.

"When I said toting sacks of feed during the summer would build up your shoulders, Fenton, I meant both of them!"

Northeast

The holiday put a little brake on formula feed sales and some mills were pressed to put in a 5-day week. However, the trade is looking forward to a good run of business during the fall feeding season.

There was a good turnover in egg mashes. Turkey feeds also did well but demand for broiler feeds is diminishing. Dairy feeds continue to hold up.

Broiler prices were off in the East, with levels ranging from a low of 17¢ lb. to a high of 18½@19¢, but most sales weren't over 18¢. One spokesman said growers would be in bad shape at these levels if feed prices weren't down.

The egg market, however, was strong in all directions.

In the ingredient market, corn was weak but soybeans flattened out after their month-long fall.

Corn was down 2½¢, with government stocks acting as a burden on the market, otherwise supplies weren't too free. Barley was off 3¢; oats held about steady and feed wheat and milo were steady.

Meat scraps continued weak, with a decline of $5. Fish meal was quite strong and the market is likely to hold up. Supplies are limited and high winds have scattered the fish, making operations practically fruitless.

Brewers' grains held just about steady. Distillers' grains moved in a wide range of from $61 to $70. Gluten feed was steady. Alfalfa meal held fairly steady but hominy feed declined $1 to $2.

Millfeed sales were quiet, with interest centered mostly in sacked items.

Running time of formula feed manufacturers averaged out at about 40 hours last week.

Southeast

Feed demand has continued at a decidedly slower pace this week as compared with business up to several weeks ago. Although baby chick

(Turn to MARKETS, page 80)

how science's latest developments are applied to feed manufacturers' problems...

PETER HAND

puts its research farm to work for you

The illustrated section of the recently enlarged 450-acre Peter Hand research farm contains (counter-clockwise): large broiler house with capacity for more than 10,000 birds; special chick finishing house; unit for mixing experimental rations; storage shed; barn and concreted yards exclusively for swine; farrowing house, its second floor equipped with batteries for starting chicks.

Not shown in photo is a 400 ft. x 50 ft. turkey rearing house and sunporch; pig rearing unit; and cattle barn. The farm, and its research program is headed by Dr. H. S. Wilgus, recognized authority on poultry and animal nutrition.

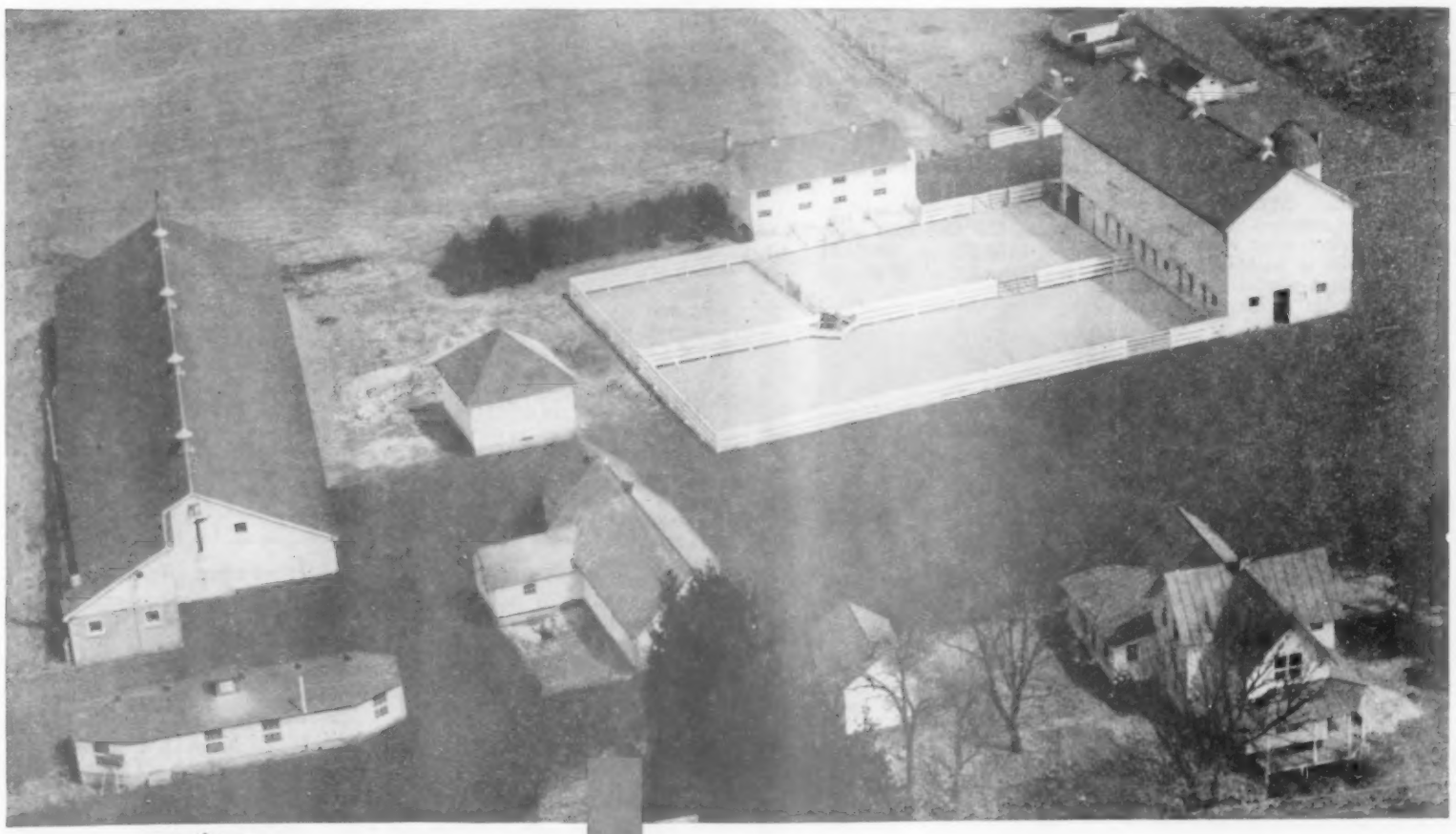
Among many projects conducted at the farm have been: use of Lipamone in improving weight gains and feed efficiency of poultry; relative effectiveness of antibiotics; observations on control of CRD with vitamins and antibiotics; effect of energy levels on optimum vitamin levels.

You, as a successful feed manufacturer, know that there is no one "magic formula" to cover all needs. But do you have the time and facilities to test and to evaluate all of science's latest findings before applying them to your own practical problems? At Peter Hand we can help you go a long way toward doing this through our continuous experimental program on the Peter Hand research farm.

Our staff has the facilities for testing and evaluating nutritional developments. Their conclusions and recommendations, backed by actual experiments on our research farm, can help you avoid costly mistakes and waste.

This built-in feature in Peter Hand products multiplies their effectiveness, increases both their quality and dependability. And it is a way to make sure you are answering your particular feed problems with science's latest developments.

Add these benefits to your service now!



superior quality
custom pre-mixes
blended to your exacting
specifications

© 1958, P.H.B. Co.

PETER HAND FOUNDATION
Division Peter Hand Brewery Co.
1000 North Ave., Chicago 22, Ill.
MOhawk 4-6300

Peter Hand Foundation, Dept. F-8-30, **1000 North Ave., Chicago 22, Ill.**

Please send me complete information on the services you offer to feed mfrs.

NAME ..... TITLE .....

COMPANY NAME .....

ADDRESS .....

CITY ..... ZONE ..... STATE .....

Mid-South Shippers Asks ICC to Decline Tariff Suspension

MEMPHIS—An official of the Mid-South Soybean & Grain Shippers Assn. has requested that the Interstate Commerce Commission decline to suspend the tariffs naming 18¢ and 20¢ rates on soybeans to New Orleans for export.

In a telegram to Harold D. McCoy, secretary of the ICC at Washington, C. C. Dehne, Sr., traffic representative of both the Mid-South Shippers group and Missouri Cotton Producers Assn., said:

"Have information suspension requests have been filed by barge line and riverside elevator operators protesting the 18¢ and 20¢ rates on soybeans to New Orleans for export.

"As traffic representative for Mid-South Soybean & Grain Shippers Assn. and Missouri Cotton Producers Assn., who are also grain and soybean shippers, having a total membership in excess of 150 shippers, practically all of whom are located in interior shipping points with elevators and railroad loading facilities in the Bootheel of Missouri, eastern Arkansas and eastern Louisiana, western Kentucky, Tennessee, and Mississippi, respectfully request the suspension board not to suspend the tariffs naming these rates."

Mr. Dehne told Mr. McCoy that the large grain interests and exporters operate their own barges and also own the riverside elevators, and can and do secure the soybeans from interior production to the exclusion of the interior grain and soybean dealers.

"In other words, it is simply a selfish motive to deprive the interior dealer and the railroad of this business," Mr. Dehne added.

Cyanamid to Introduce New Feed Coccidiostat

NEW YORK—A new coccidiostat for use on laying flocks as well as broilers will be introduced to the feed industry in September, American Cyanamid Co. has announced.

Called Arzene arsenosobenzene, the compound is the only coccidiostat to be cleared by the U.S. Food and Drug Administration for use with laying hens, Cyanamid reported. Federal clearance was obtained last May following extensive trial work which showed Arzene to be both safe and effective against coccidiosis when added to broiler or layer rations, spokesmen said.

Company officials say Arzene gives continuing protection against coccidiosis in broilers at a cost of less than one half cent per bird from birth to market. Similar low cost protection is possible for laying birds. Recommendations for use call for Arzene to be added to poultry rations at a level of 1 lb. per ton of complete feed.

Arzene will be sold to the feed industry as a stable premix containing 4% arsenosobenzene and selected carriers which insure easy mixing and handling, according to the announcement, which also noted the product is non-bridging, non-caking and non-electrostatic.

Field experimentation and commercial field use of Arzene have demonstrated that the compound is safe for chickens of all ages and accidental contamination of layer feeds will not result in any harmful effects upon the birds or their eggs, the company said.

Other benefits noted during the trials include increased growth rate and improved feed efficiency as well as improved pigmentation. Company researchers point out Arzene also protects birds against bloody droppings due to coccidiosis and allows development of immunity in exposed birds.

Wallin D. Bynell

Robert A. Nelson

PEAVEY APPOINTMENTS—Wallin D. Bynell, manager of the feed jobbing department of Peavey Feed Mills, division of F. H. Peavey & Co., Minneapolis, since 1955, has been named assistant general manager of the division, according to a recent announcement by Frank T. Heffelfinger II, division general manager. Announced at the same time was the promotion of Robert A. Nelson to the post vacated by Mr. Bynell, and of Robert W. Marrs to assistant manager of the feed jobbing department. Mr. Heffelfinger said that Mr. Bynell will work with all departments and will assist management in administration of the affairs of the division. Mr. Bynell was first employed as an office boy in the elevator division of F. H. Peavey & Co. in 1934. He subsequently served in various positions with the firm. Mr. Nelson has been in the feed business 20 years and with the Peavey system since 1954 with the Russell-Miller Milling Co., another subsidiary of F. H. Peavey & Co., and as assistant in the department he now serves. Mr. Marrs joined the Peavey system in 1956 after graduation from the University of Minnesota with a major in agronomy.

Buffalo Millfeeds Up After 16-Year Low

BUFFALO — Buffalo millfeed prices, after reaching 16-year lows late last week, moved up rapidly at weekend.

A threatened strike brought the downturn, but better feeling in negotiations later this week brought buyers into the market Aug. 28-29. A meeting was scheduled at 10 a.m. Aug. 29 between negotiators.

An unusual development was the decline in some Buffalo prices to a discount of $1@2 under Chicago. By weekend, however, bulk bran had moved up from its low of $27 to a price of $30 and bulk midds. had gained $4.50 from a low of $29.

The upturn brought a quick reaction from Chicago, it was reported, where buyers moved in following the Buffalo upturn. Kansas City also reported better tone in the millfeeds market late this week.

Soybean meal prices, meanwhile, continued to move upward through the week. Prices were generally about $3 over the previous week. Spot unrestricted meal was quoted at $61, bulk, Decatur, on Aug. 29. Meal for Minnesota shipment was $52, bulk, Decatur, and Eastern Trunk Line meal was $59.

Processors expect prices to be stable or possibly higher through the month of September, they said. Futures prices were stronger during the week as a result of the Quemoy situation, and processors point out that a squeeze on last half September may develop if the new crop is late.

Several mills are down, readying for the new crop, and added to this was a scarcity of stocks.

Despite the large crush this summer, mill stocks Aug. 1 were 61,314 tons, well below the 82,345 tons July 1 and 128,986 tons a year earlier.

Edward A. Grindel

JOINS INGREDIENT FIRM — Edward A. Grindel has joined the feed ingredient department of the Gilbert Jackson Co., Kansas City brokerage firm. He will specialize in handling soybean, cottonseed and other vegetable oil meals.

Rail Rates Reduced For Midwest Grains

MINNEAPOLIS—Reduced freight rates by all railroads serving North Dakota, South Dakota, Minnesota, Iowa and Wisconsin for corn, oats and sorghum grains and their products, as well as soybeans, went into effect Aug. 26.

The reductions were advanced from an original effective date of Sept. 15 to apply to the crop now being harvested, according to T. H. Maguire, chairman of the executive committee of the Western Railroads Traffic Assn. Reduced were the gathering rates to the markets.

Heaviest reductions were made in the short movements, which have been termed by rail carriers as the most vulnerable to truck competition.

The new rates are on the basis of mileage, but are published point-to-point. They are 10¢ for the first 50 miles and ½¢ for every five miles beyond that to 350 miles.

Also reduced were flat rates between markets so that short rates into the markets do not exceed 12¢ when using the proportional rate out from the market.

Find New Source Of Vitamin A in Southern Grasses

By Special Correspondent

RALEIGH, N.C.—Meal made from dehydrated Coastal Bermuda and sericea lespedeza plants has proved to be an adequate substitute for alfalfa as a source of vitamin A, researchers at North Carolina State College announced this week, following extensive livestock and poultry feeding tests.

On the basis of the results, Dr. E. W. Glazener, head of the poultry science department at State College, declared, "The new meal can bring a new industry to North Carolina, the monetary value estimated in the millions, since its use can mean lower feed costs to livestock feeders and production on North Carolina's poor sandy soils is virtually unlimited."

Concurrent with this report on dehydrated grasses, efforts in a similar direction are being made at Clemson Agricultural College in South Carolina. The aim there is to produce Coastal Bermuda grass pellets and a pilot plant operation has been started. (See story on the pelleting, page 31, this issue.)

The idea to dehydrate the two forages was credited to K. J. Shaw, farm manager of McNair Farms at Laurinburg, and the research was encouraged by E. Y. Floyd, director of the North Carolina-Virginia Plant Food Institute, the "self appointed promoter" of Coastal Bermuda grass.

Broiler tests conducted by Drs. C. H. Hill and Glazener showed alfalfa-fed chicks weighed 3.21 lb. at 10 weeks compared to 3.42 lb. on Coastal Bermuda and 3.57 lb. on sericea.

Steer-feeding tests run by Drs. E. R. Barrick, A. J. Clawson and M. B. Wise showed average daily gains of 2.99 lb. on alfalfa as compared to 3.17 lb. on sericea.

The secret of the outstanding performance, according to the scientists, is the method used to capture the high feeding value of Coastal Bermuda and sericea lespedeza when their quality is the highest. The grasses are harvested when the protein and carotene contents are high and, through the process of rapid dehydration (often completed within an hour from the time the plants are cut), the plant material is dried to 10% moisture or less.

CHICAGO CLUB SETS FALL GOLF OUTING

CHICAGO—The fall golf outing of the Chicago Feed Club will be held Sept. 16 at Midlothian Country Club. Club officials are urging members to keep this date open and to line up guests. Reservation cards will be sent to all members next week.

Farm-to-Market Co-ordination
MEL MILLER & CO., INC.
20 WEST NINTH ST. BUILDING
KANSAS CITY, MO.

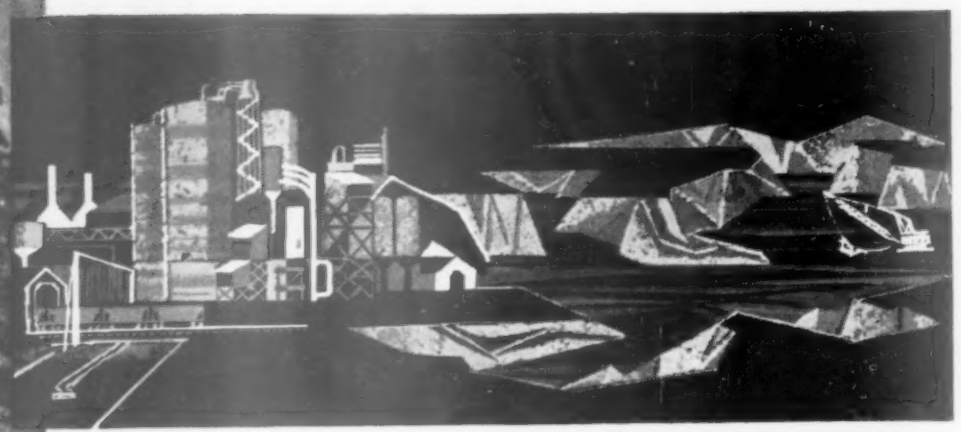
SMALL'S
DEHYDRATED ALFALFA
"For Feeds with a Future"
Archer-Daniels-Midland Co.
Alfalfa Division
P. O. Box 356 • Kansas City, Mo.

MANEY BROS.
MILL & ELEV. CO.
Minneapolis, Minnesota
Distributors in the Upper Midwest States for
SMALL'S DEHYDRATED ALFALFA MEAL

Natural wonders

made dynamic by man . . .

Slowly, wondrously, the myriad chemistries of nature yield up great treasures. But it remains for creative man to mold them to serve his needs.



and rich, natural phosphate deposits

made dynamic by modern technology to give you

dynamic **DYNA•FOS®**

today's most dynamic feed phosphate

You can count on Dynamic DYNAFOS to deliver full nutritional value from your feed formulas. It is beaded, made uniform in quality, high in biological availability, low in fluorine, and easy to handle. Wire or call for full information.

Creators of Living Minerals

MINERALS International CHEMICALS

PHOSPHATE CHEMICALS DIVISION

INTERNATIONAL MINERALS & CHEMICAL CORPORATION

Administrative Center: Skokie, Illinois

USDA Reports On Tests with Coccidiostats

WASHINGTON— The U.S. Department of Agriculture reported recently on studies with six anti-coccidiosis drugs for poultry.

USDA said that "two new drugs — glycarbylamide and nicarbazin — used against cecal coccidiosis, proved more effective in recent USDA experiments than four other compounds currently used."

The six chemicals were tested at Beltsville, Md., by Drs. Don K. McLoughlin and David K. Chester of USDA's animal disease and parasite research division. Compounds used, besides glycarbylamide and nicarbazin, were nitrofurazone, Bifuran, sulfaquinoxaline and Trithiadol.

Results of the studies were reported by Dr. McLoughlin to members of the Society of Protozoologists, meeting with the American Institute of Biological Sciences at Bloomington, Ind.

"Little information was previously available on the relative value of the chemicals in limiting the effects of cecal coccidiosis," the USDA announcement said.

"Only those birds fed glycarbylamide-medicated mash showed better weight gains than the controls. This suggests a primary growth-promoting property in this compound, but further testing will be required before this finding can be substantiated.

"All infected groups of chicks treated with medicants showed less mortality, less evidence of severe hemorrhage and other disease symptoms, and better weight gains than did infected but untreated groups. Results with the compounds tested differed only in the degree of protection given the treated birds.

"The researchers divided 573 mixed-breed chicks, coccidia-free and three to four weeks old, into groups of about 20 birds. Each group was confined in a wire cage. Starting mash and water were offered to all groups.

"The groups that received medication were started on appropriately medicated mash about 24 hours before being inoculated with the coccidiosis disease organism (Eimeria tenella). They were kept on the medicated mash for 14 days after inoculation.

"The uninoculated, unmedicated controls and the inoculated but unmedicated groups were fed regular starting mash throughout the experiment.

"None of the nicarbazin-medicated birds died. Mortality was less than 5% among birds treated with nitrofurazone, glycarbylamide or Bifuran. Mortality in the inoculated, unmedicated groups was 41%."

Delbert S. Prideaux

VICE PRESIDENT—Delbert S. (Jim) Prideaux has been appointed vice president of production for the Morrison Milling Co., Denton, Texas, E. W. Morrison, president, has announced. Mr. Prideaux joined the firm in 1947 after graduation from Kansas State College where he majored in milling chemistry and minored in milling technology. He first served the firm as mill chemist, and for the past three years has been superintendent of elevators. He will continue in the latter capacity and will also be in charge of sanitation control and employee relationships in the production department.

Credit Meeting Set Sept. 23 in Kansas City

KANSAS CITY—A Farm Supply Credit Group Meeting, sponsored by the Midwest Feed Manufacturers Assn. and the National Association of Credit Men, will be held in the Phillips Hotel here Sept. 23.

An invitation to attend the sessions has been extended to all firms selling the farm supply dealer by R. F. Hagans, Pay Way Feed Mills, Inc., Kansas City, chairman of the Farm Supply Credit Group. Reservations should be made with Mr. Hagans, 3119 Gilham Road, Kansas City.

A panel discussion will open the meeting at 10 a.m. Moderated by D. H. Elmore, credit manager, Ralston Purina Co., Kansas City, the panel will have as participants Lloyd S. Larson, executive vice president, Midwest Feed Manufacturers Assn.; Joe Acuff, general credit manager, Butler Manufacturing Co.; Leon Baker, general manager, Snyder Chemical Co., Topeka, Kansas, and R. V. Garrett, Small Business Administration.

Following a noon luncheon, a group credit meeting, with discussion of dealer accounts, will be held. A cocktail hour will conclude the day.

Curtailed Dehy Output Cuts Gain in Stocks

KANSAS CITY—Dehydrated alfalfa stocks did not increase normally in July, the monthly report of the U.S. Department of Agriculture shows. The gain in stocks for this peak production month of the year was only 65,000 tons, compared with a gain last year of about 112,000 tons and a five-year average of about 90,000 tons.

The small increase in stocks was brought about by a sharp production curtailment in the Middle West. Kansas output for July was 30% below a year ago, Nebraska was down 24%, Colorado was off 26% and Ohio 15%. The average for the nation was about 19% off.

Consumption held up well during July, and the disappearance figure of 126,200 tons was a bit above the five-year average of 122,600. Production for the month was estimated at 190,300 tons, compared with 234,500 last year and 213,400, the five-year average.

Stock in dehydrators' hands on July 31 totaled 272,000 tons, compared with 207,900 a month earlier and 293,900 a year earlier.

Operations in August have been somewhat improved with more favorable weather in some areas. Quality of field cuttings, which had been a problem this year, also shows improvement, according to the American Dehydrators Assn., Kansas City.

Broiler Prices Hit Year's Low Point

SALISBURY, MD.—Broiler prices in Delmarva last week reached the lowest price so far this year. The average price paid on the farm was 18¢. A year ago the price was 21.9¢.

Along with lower prices came a national setback in the number of hatching eggs placed in incubators. Hatcherymen in 22 reporting states set 38,656,000 eggs last week. This was 2% less than the previous week and 10% above the corresponding week a year ago. Decreases in the number of eggs set from the previous week were reported in all but seven of the 22 states. Sharpest declines from the previous week occurred in Georgia, Missouri and Texas.

Broiler growers across the nation placed 28,991,000 chicks on the farms last week. This was 5% less than the previous week but 12% above the corresponding week a year ago. Sixteen of the 22 states reported lower placements compared to the previous week. The greatest decreases from the previous week occurred in Georgia, Delaware and Texas.

In Delmarva last week, according to the Maryland-Delaware Crop Reporting Service, growers started 3,532,000 broiler chicks. This was 7% less than the week earlier but 7% above the corresponding week of last year.

Announce Program For College-Feed Industry Meeting

AMES, IOWA—The program has been announced for the Iowa nutrition and feed industry conference Sept. 11-12 at Iowa State College, Ames. This year the program will be divided into two sessions: One for executives, nutritionists, sales and advertising managers of feed manufacturers, and farm and trade press editors; and a second for feed salesmen and dealers.

The session for the first group will take place on the afternoon of Sept. 11, with Dr. R. E. Phillips, head of the Iowa State poultry department, presiding. Dr. G. M. Browning, associate director of the Iowa experiment station, will discuss the policy of the college in research and education in co-operating with industry.

Problems involved in getting scientific feeding and management programs on Iowa farms will be described by three speakers: W. G. Zmolek, Iowa State animal husbandman, will talk from the college viewpoint; Ray Van Poucke, Ames (Iowa) Reliable Feed Co., from the formula feed standpoint, and M. J. Harvey, American Cyanamid Co., from the additive supplier's position.

Seek Solution

This will be followed by a panel discussion on working together to solve these problems, in which the three speakers will participate together with Drs. Damon V. Catron, Wise Burroughs and L. E. Johnson, of the Iowa State animal husbandry department; Jack Jensen, Golden Sun Milling Co., Estherville, and Frank Steinmetz, Pillsbury Mills, Inc., of Clinton, Iowa. Dr. Johnson will be chairman. Hugh Kelley, Ames (Iowa) Reliable Feed Co., will conclude with a discussion of the outlook in the years ahead.

The next day's session for salesmen and dealers will start with Dr.

(Turn to IOWA, page 79)

New Hubbard Milling Promotions Announced

MANKATO, MINN. — Quentin J. Marsh, manager of the Cedar Rapids, Iowa, branch of Hubbard Milling Co. for the past year and a half, has been named assistant manager of the company's feed division, according to C. B. MacLeod, president of the firm.

Mr. Marsh assumes responsibility for sales management and training, advertising, public relations and marketing in the new position.

Succeeding Mr. Marsh as acting manager of the Cedar Rapids plant is Don Healy, who formerly was administrative assistant.

KENTUCKY FEED CONFERENCE—Speakers for the Kentucky Feed Conference held recently and officers of the Kentucky Feed Assn. are shown above. Some of the officers and directors are in the first photo. Front row (left to right) are: M. J. Rahiya, Louisville, president; Edward C. Aubrey, Louisville; Louis F. Shadburne, Louisville. Back row: Donn D. Early, Cincinnati; Tom Coons, Mt. Sterling; Jack L. Weber, Lexington, secretary-treasurer, and B. C. Parker, Bowling Green, vice president. In the second picture(left to right) are Richard L. Kathe, director of public relations, American Feed Manufacturers Assn., Chicago; Mr. Rahiya; Dr. C. E. Barnhart, University of Kentucky; Penrose Ecton, president of the Lexington Chamber of Commerce; Dr. H. E. Wilgus, Ray Ewing & Co., Pasadena, Cal. Shown in the third picture (left to right) are Ray Bowden, former executive vice president of the Grain & Feed Dealers National Assn.; Dr. Don R. Jacobson, University of Kentucky; A. R. Parsons, Fischer Packing Co., Louisville; John Begin, University of Kentucky; Bruce Poundstone, University of Kentucky, and Dr. W. P. Garrigus, University of Kentucky. (A report of the Kentucky Feed Conference will be found on page 10.)

Quality Control, Antibiotics, Mineral Nutrition Discussed

By JAMES H. ROSS
Feedstuffs Staff

MADISON, WIS.—An address on quality control in feed manufacturing, one on antibiotics for dairy cattle and three discussions on mineral nutrition were presented at the recent Wisconsin Nutrition Conference at Madison. Reviews of the talks follow.

PRODUCING FEEDS SAFELY—Dr. W. W. Cravens, director of feed research and nutrition, McMillen Feed Mills, Decatur, Ind.: The topic I was asked to discuss arose, I am sure, as a result of the problem encountered in chickens during the latter part of 1957 and early 1958.

At the outset, I would like to point out that this is one of the few examples of feeds being produced which resulted in actual loss of animals or poultry. The problem does, however, serve to emphasize that there are potential dangers in feed manufacturing, the same as in the production of products of any type, especially those used by biological organisms, and it is the responsibility of the feed manufacturer to take every precaution necessary in order to assure the production of feeds that are completely safe for livestock and poultry.

It can be stated, without reservations, that the feed industry accepts this challenge and expends enormous sums of money annually to see that top quality products are made available for its customers on the farms of America.

Quality Control

Incoming ingredients into the plants are carefully inspected and numerous laboratory tests are run to assure that they are of high quality. Frequently, incoming samples are subjected to microscopic analysis to determine whether or not contaminants or adulterants are present.

Feed microscopy is a relatively new and useful quality control technique. Chemical analyses for protein, fat and fiber, mineral and vitamin content are made on many of the ingredients coming into plants. Biological testing for vitamins not measurable by chemical tests is made to insure vitamin content of certain ingredients. Digestibility experiments are run on sources of protein to insure that certain protein rich ingredients have been subjected to processing conditions compatible with maximum nutritional quality. Chemical analyses are made of sources of vitamins, minerals and drugs that are brought into the plant for incorporation into the feed.

During actual production, feed manufacturers have developed inventory controls and check-offs which enable them to determine whether or not the proper level of each ingredient is present in each batch of feed. Each run of feed is subjected to a sampling procedure to be certain that it is of uniform appearance, texture and quality. Systematic control tests are made of production runs of feed to insure that proper mixing has been carried out, and to warrant that the feed meets the standards of quality desired.

In many cases, feeding tests of production runs of feed are made to assure quality. Extensive experiments on actual mixing conditions and techniques have been conducted by our company and I am sure many others.

Even with the extreme precautions outlined above, occasionally there are toxic factors in feeds. The increasing use of drugs has put an added responsibility onto the feed manufacturer. Feed medication is the only practical way of medicating large numbers of chickens, and the feed industry is forced to act essentially as the dispensing pharmacist.

I think one of the greatest hazards to the use of many of the drugs in feeds is the fact that grain and mash rations are fed, and the strict level required by the animal is not included in an all mash type of ration. Feeding directions may indicate quite clearly the amount and ratio of grain to mash that should be fed, but it is the responsibility of the feeder to see that these ratios are followed if the greatest benefits are to be derived from feeding the medicated feed.

Another hazard of medicated feeds, quite unrelated to the feed, is that frequently water soluble forms of medications are supplied concurrently with medicated feeds with a resulting doubling up of the amount of drug being supplied the animal. Such doubling up may definitely bring about toxic symptoms in the animal. In such cases the feed may receive the blame, whereas the additional intake through the water is the basic reason for the appearance of toxic symptoms.

Toxic Fat for Poultry

The most recent problem encountered by the feed industry was that of ascites or "water-belly" and hydropericardium in chickens resulting from the intake of toxic fat included in the feed. This could not have been predicted, but today tests have been developed which will aid in the elimination of the problem, and further, various sources of such fats have been identified so that they will no longer move into feed channels.

● (Dr. Cravens presented a report released at the American Feed Manufacturers Assn. Nutrition Council meeting last May, describing what is known about the chemical compounds present in the toxic fats which created the problem in chickens.)

The fact that so much has been learned about this problem in such a short time is a great tribute to research laboratories in various locations. Further information, not yet ready for release, has been obtained since the May meeting, and I am positive that this work will be continued until the compound is definitely identified and specific tests worked out so that the fats can be checked prior to inclusion in feed, in order to absolutely eliminate any possibility of a recurrence of this problem.

As further research is conducted, the feed industry will apply the results of such research, in order to further improve its products and assure customers of still greater economic benefits from the use of products that will perform satisfactorily and result in greater economic return to those who use their products.

The rapidity with which new research findings are incorporated into the feed bag from a nutritional standpoint is an indication of the stature of the industry. Concurrent with the application of these developments is research to develop newer ways of manufacturing feed to insure that the correct levels of all nutritionally essential factors are included, as well as all non-nutritive medicants. I think that we can safely say that feeds are produced safely.

Though quality control and precise production techniques assure the safety and quality of manufactured feeds, it remains for the feeder to use all products correctly if satisfactory results are to be obtained. It is most important that feeding directions be carefully followed in order to avoid overfeeding of certain medicants included in feeds. Further supplemental water medication should never be given while using a medicated feed.

(Other talks at the conference dealt with feeding management. Reports on these talks will appear in a future issue of Feedstuffs.)

ANTIBIOTICS FOR DAIRY CATTLE—Dr. E. E. Bartley, department of dairy husbandry, Kansas State College: Even when environmental conditions are not particularly unfavorable, Aureomycin will enhance calf growth and control infection. From a practical viewpoint, it is difficult to conceive that in large herds the calf quarters would remain uncontaminated for long periods of time.

Calves will benefit most from antibiotics if fed the antibiotic as soon after birth as possible. The most sick-

(Turn to WISCONSIN, page 79)

WISCONSIN MEETING — Shown chatting between sessions at the recent Wisconsin Nutrition Conference are (left to right) W. B. Griem, chief of the feed inspection service, Wisconsin State Department of Agriculture, and Dr. W. W. Cravens, McMillen Feed Mills, Decatur, Ind. Mr. Griem was chairman of one of the four sessions, and Dr. Cravens was one of the conference speakers.

ILLINOIS SOW DINES AT FEED STORE

MINNEAPOLIS—Officials of Nutrena Mills, Inc., Minneapolis, are toasting a Waltonville, Ill., pig these days and hoping for millions more like her. This particular porker, a sow two weeks short of farrowing, strayed from her farm home near Waltonville recently and ended up two miles away at the town's Nutrena feed store. Undetected, she tore open a bag of pig feed, had lunch, nudged open the gate to a Pigloo—Nutrena's newly-developed swine farrowing house—and bedded down. She was still in the display unit, happy and satisfied, when her owner arrived.

Tastelation®
...The Mark of QUALITY For Your FEED
*FLAVORS . . . ALGIT 60-12 . . . LITTER . . .
(60 Minerals—12 Vitamins)
TASTE ENGINEERING, INC.
1401 West Hubbard Street Chicago 22, Illinois
MOnroe 6-5255
Manufacturers • Importers • Distributors

Dollar for Dollar . . .
Fruen's Minneapolis, Minn.
there are no finer oat products than
FRUEN'S
We're not bragging. We're just positive of what our long experience and fine milling equipment can do in turning out the finest oat products, dollar for dollar, that money can buy. Just try Fruen's and compare!
Send for samples and prices today. Our Teletype number is MP 477
Mixed cars shipped at straight car prices
TOWER BRAND ROLLED OATS (Steam processed)
ACE BRAND ROLLED OATS (Steam processed)
KING BRAND ROLLED OATS (Steam processed)
WHOLE OAT GROATS
STEEL CUT OAT GROATS
BOLTED OAT FLOUR
GLENWOOD FEEDING OAT MEAL
FALCON BRAND PULVERIZED WHITE OATS
STANDARD BRAND PULVERIZED WHITE OATS
DAIRY BRAND COARSE GROUND OATS
CRESCENT BRAND PULVERIZED OATS
CORN OATS PELLETS (Corn-Oats)
MIXERS' PULVERIZED OATS
MIXERS' COARSE GROUND WHITE OATS
MIXERS' PELLETED OATS
APEX BRAND CRIMPED WHITE OATS
OAT FEED
STEAM ROLLED WHOLE BARLEY
GROUND BARLEY
PEARLED BARLEY FLAKES (Max. 2½% fiber) (steam processed)
GLENWOOD PEARLED BARLEY
STAR CRACKED PEARLED BARLEY
STEEL CUT WHEAT
ACME GROUND DOMESTIC FLAX SCREENINGS
Millers TO THE FEED TRADE
FRUEN MILLING COMPANY
MINNEAPOLIS 5, MINNESOTA

Dick Nesbitt

Sportscaster to Speak At Northwest Meeting

MINNEAPOLIS—A former college and professional football player turned sportscaster will be the guest speaker at the first dinner meeting of the new season for the Northwest Feed Manufacturers Assn. on Sept. 8.

Dick Nesbitt, an outstanding college football player with Drake University, Des Moines, and later teammate of Bronco Nagurski and Red Grange in the backfield of the Chicago Bears, will give a special report from the sports scene.

Mr. Nesbitt is sports director for station KSTP, radio and television, Minneapolis and St. Paul.

The meeting will be the annual meeting of the association. Election of officers and directors is scheduled.

The fall meeting is held each year in conjunction with the Animal Nutrition and Health Short Course at the University of Minnesota. The short course will be held Sept. 8-9.

ALLIED MILLS

(Continued from page 1)

year, from the $92,550,353 of the year before, they reported. Earnings per share of common stock rose from $3.06 to $3.86.

Mr. Lenz pointed out further that a new formula feed plant was completed at Guntersville, Ala., during the year, and additional grain and bulk feed storage and handling facilities have been constructed due to development of business in that area. Marine unloading equipment for the handling of grain and bulk ingredients also is being installed. During the past year bulk facilities for the unloading, storage and distribution of ingredients and finished products have also been added at a number of other locations, he said.

At Cozad, Neb., a new alfalfa dehydrating unit was added to the existing plant, increasing the capacity by about 5,000 tons annually. Storage facilities for alfalfa meal pellets also have been added.

The report also noted the passing of Harold J. Buist, president and chairman of the board, last November, and the subsequent election of Mr. Lenz and Mr. Murphy to their present positions.

Board Members

KANSAS CITY—Two membership transfers on the Kansas City Board of Trade were approved this week. Donald Danforth, Jr., with the buying department of Ralston Purina Co. in Kansas City, is a new member in place of R. L. Durham, Mensendieck Grain Co., Inc. E. T. Halloran, assistant manager of the grain department of Flour Mills of America, Inc., took over the membership formerly held by John Johntz, formerly with Flour Mills of America and now with C-G-F Grain Co. in Wichita.

Nutrition Milestones Reviewed At Poultry Meeting—Part II

By Dr. Elton L. Johnson
University of Minnesota

EDITOR'S NOTE: This is the concluding presentation of selected papers presented at the Golden Anniversary meeting of the Poultry Science Assn., held at Cornell University recently. The first half of the resume appeared in last week's issue of Feedstuffs. Dr. Johnson is head of the poultry department at the University of Minnesota.

Appreciable research in the area of mineral nutrition has resulted in some progress but also some confusion regarding practical applications. Evidence to date indicates trace mineral balance may turn out to be as important in mineral nutrition as amino acid balance is in protein nutrition.

A Louisiana report indicated significant increases in growth of chicks fed a corn-soybean type ration when the following minerals were added—10 ppm. molybdenum, 1 ppm. tungsten, 1,000 ppm. inorganic sulphur, and 40 ppm. copper. Molybdenum depressed growth when fed at 1,000 ppm. or higher levels. Toxicity of molybdenum occurred at Ontario when 200, 350, or 500 ppm. were added to practical diets already containing 7 ppm. The growth depression caused by 200 or 350 ppm. was partially overcome by the simultaneous feeding of 100, 200 or 350 ppm. of copper in the sulfate form, but 500 ppm. increased toxicity.

Zinc addititons elicited chick growth response in some experiments at Maryland but were ineffective in others. Consistent responses were obtained with purified diets at Maryland and also in the Commercial Solvelts Corp. laboratories.

Potassium studies with purified diets at Cornell showed increased levels needed when protein was increased. Increased energy levels also resulted in elevated potassium needs. This finding is similar to the relationship shown between protein, energy and calcium at Georgia. These investigators found a calcium requirement of 0.9% when the ration contained 20% protein and 840 calories. Increasing the protein to 30% and calories to 1,260 resulted in a 1.3% calcium requirement.

Effect of Feed Intake

Changes in mineral requirements caused by protein and energy alterations may merely represent changes in growth rate and feed intake and not necessarily basic changes in metabolism requirements. It is well recognized that higher protein and energy levels result in a reduced feed-gain ratio. This means that lower mineral levels are automatically consumed when no adjustment is made for decreased total feed intake.

Ontario studies on phosphorus sources failed to show a need for any additional supplementation in a ration of the "all-vegetable" type. The authors felt the N.R.C. recommended allowance is too high as the 0.42% total phosphorus in the basal diet was adequate for egg production, body weight, shell quality and feed conversion.

A second study at Ontario indicated soft phosphate with colloidal clay to have availability of 40% of that of dicalcium phosphate. Another interesting part of this work with chicks demonstrated the treating of soft phosphate with an equal amount of phosphoric acid increased phosphorus availability in soft phosphate from 48% to a high level of 122% as measured by bone ash.

Soft phosphate was also studied at Purdue with the conclusion that dicalcium phosphate was more effectively absorbed. Growth of young chickens fed 3.55% soft phosphate and 0.167% phosphorus as phosphoric acid was similar to that obtained with the same level of dicalcium phosphate. Levels of clay as high as 6% did not reduce growth rate, as male chickens at eight weeks weighed 1,237 gm. on a starved basis.

Protein and Amino Acids

Protein levels required by layers continue to be controversial. Louisiana reported 18% superior to 15% whereas Purdue and the Canadian Department of Agriculture indicated the protein need could be supplied at a total protein level in the range of 12 to 14%. A Rutgers study revealed that 10.4% of protein would support excellent egg production but did not produce satisfactory egg weight.

Other protein studies revealed crystalline amino acids not satisfactory replacement for protein although production was maintained from 37 to 52% for short periods of time at Wisconsin. This type of diet as well as one deficient in lysine or methionine at Alabama invariably results in reduced body weight and egg size.

Monsanto Chemical Co. research indicates amino acid requirement as a percentage of total protein is constant over a rather wide range as long as the protein-energy level is similar. Utah showed the specific requirement for arginine to vary with the amino acid balance in the protein.

Responses to apparent unidentified factors were reported in fermentation residues and delactosed whey by Texas, in corn fermentation solubles by Corn Products Refining Co., and in vegetable oils by Washington. The Washington effect was noted primarily in reduced egg size and the oil effect was shown to be independent of the supply of the fatty acids—linoleic or oleic acid.

Toxicity and Hemorrhages

Studies at Alabama and Ohio on dietary induced hydropericardial disease showed that toxic substances in certain commercial feeds and fats reduced hatchability, increased embryonic edema, and accumulation of pericardial fluid in chicks. A 10% toxic fat level killed all chicks in four weeks, and a 3.5% level reduced egg production.

Further studies using beta aminopropionitrile as a stress factor to study hemorrhage in chickens and turkeys have been reported from South Carolina and Minnesota. Ten to 20% cottonseed oil, corn oil or animal fat increased internal hemorrhage at South Carolina. Simultaneous feeding of 30 mg. pyridoxine also increased hemorrhage.

Minnesota reported that fish meals hastened the onset of hemorrhage and the activity varied between six samples. In contrast with the work at South Carolina, 15% animal fat or corn oil did not affect hemorrhage incidence. Other negative dietary inclusions were soybean oil, safflower oil, wheat middlings or bran, oats, alfalfa meal or dried whole whey.

Management and Miscellaneous

Ontario studies with seven different strains and crosses failed to show any difference in layer performance due to low energy diets during the growing period. Pasture rearing resulted in only a slight (not significant) improvement in egg production.

The coccidiostat, Trithiadol, decreased chick growth significantly

(Turn to MILESTONES, page 75)

MEAT ANIMALS

(Continued from page 1)

maturity, the conditions affecting cattle feeding have more bearing than before on the rate of annual beef output, and the size of the basic breeding herd has less, USDA points out. If smaller supplies and higher prices of feed should at any time make feeding unprofitable, beef production per person could be reduced considerably.

But this reduction is most improbable, the department said, in view of the huge supply of feed now available. It is much more likely that abundant feed will give a further thrust to cattle feeding in the coming year and perhaps longer.

The prospective increase of 2 million or more in total cattle and calves on farms will be confined almost entirely to calves, steers and heifers, with about half probably being calves, says USDA. Apparently, not enough mature cows have been retained to enlarge the herd, and most of the heifer calves held for breeding will not be old enough to be a part of the breeding herd by next January.

The great importance of cattle feeding is likely to hold down a rapid increase in cow numbers as well as total cattle numbers, the department adds. Abundant and cheap feed, strong consumer demand for fed beef and greater technological advances in cattle feeding than in cattle production, caused the big shift to feeding the past several years. A continuation of that shift would tend to hold the increase in the breeding herd to a slow rate and keep annual beef output at a fairly high level, according to USDA.

Cattle feeding returns during the 1957-58 feeding year were well above average and feed costs were the lowest since the Korean conflict. The supply situation in prospect points to a probability of well-sustained cattle prices during at least a large part of 1959, says USDA. Costs of feed for the coming feeding season may average about as low as in the past season, for grain of equal quality. Cattle slaughter will likely show at most only a small gain during the first year or two of the current cycle upswing.

Hog slaughter this fall will not average greatly different than last fall, USDA predicts, in view of the mere 2% increase in the 1958 spring pig crop and the large number of gilts retained for breeding. Prices this fall should average close to those of last fall. The period of exceptionally high hog prices is almost ended, however, and beginning sometime late in 1958 the prices will probably drop below a year earlier and they will continue lower, says USDA.

Many of the 13% more lambs carried over last Jan. 1 apparently are being added to farm flocks. The total 1958 lamb crop is currently expected to be 4% above last year, yet commercial sheep and lamb slaughter during the first seven months of this year was 7% less than last year. Current indicated increases in sheep numbers would leave numbers far short of pre-war levels, however, and USDA figures prices on this year's crop are likely to continue near those of a year earlier.

LEAST-COST FORMULA

ITERATION NUMBER 13

INGREDIENTS		NUTRIENTS		
INGREDIENT	QUANTITY IN LBS.	NUTRIENT	COMPOSITION	UNIT
CORN	520.6258	PROTEIN	27.99994	P C
WHEAT MIDD	368.2380	ENERGY	1149.99691	CAL LB
MEAT MEAL	140.0000	CALCIUM	1.89998	P C
ALFALFA LF ML	40.0004	PHOSPHOROUS	.65002	P C
SALT	5.2822	SALT	.59998	P C
DRIED MILK	40.0004	VITAMIN A	1767.96596	USP
CALC CARB	40.7566	RIBOFLAVIN	1.34052	MLL LB
SOYBEAN MEAL	828.0566	PANTOTHEN AC	5.67516	MLL LB
DICALC PHOS	17.0346	CHOLINE	749.45763	MLL LB
		NIACIN	19.67260	MLL LB

FORMULA NUMBER	COST PER TON
6	$ 61.6105
6	$ 61.7961
6	$ 62.0467

NOW, LEAST-COST FEED FORMULAS

AVAILABLE TO EVERY FEED MANUFACTURER

THROUGH SBC ELECTRONICS

The Service Bureau Corporation recently calculated a series of feed formulas on a high-speed electronic computer for several feed manufacturers. *In every case,* the formulas reflected a substantial reduction in the cost per ton. (SBC is a subsidiary of IBM, providing nationwide data processing service.)

At a surprisingly low cost, SBC will take *your* nutrition and ingredient data and prepare least-cost feed formulas that meet all your requirements. In minutes, the electronic computer performs thousands of computations to find a combination of ingredients that meet your specifications—at the lowest practical total formula cost.

Here are the benefits to you:

- Completely accurate, fast formulation and reformulation as desired.
- Substantial formula cost savings.
- Improved competitive position.
- No equipment to buy—no personnel to train.
- You pay only for results.

No matter what your size, you can benefit from the services of The Service Bureau Corporation. Call one of our conveniently located 80 branch offices or send in the coupon for more information.

The Service Bureau Corporation, Dept. B-7
425 Park Avenue
New York, N.Y.

Please send me all the facts about how SBC computes least-cost feed formulas and the address of the nearest SBC office.

Name_____

Firm_____

Address_____

City_____

State_____

S B C

THE SERVICE BUREAU CORPORATION

Feed Conference at Kentucky Has Turnout of 130 Persons

By HENRY S. FRENCH
Feedstuffs Staff

LEXINGTON, KY. — Perfect weather, a well planned program, and close cooperation between the Kentucky Feed & Grain Assn. and the University of Kentucky Agricultural Experiment Station combined to attract approximately 130 association members, guests and their families to the annual Kentucky Feed Conference, held Aug. 18-19 at the Campbell House, Lexington.

M. J. Rahiya, Kentucky By-Products Corp., Louisville, was re-elected president of the Kentucky Feed & Grain Assn. during the annual business session. Other new officers are B. C. Parker, Pan American Mills, Bowling Green, vice president, and Jack L. Weber, Lexington (Ky.) Roller Mills, secretary-treasurer.

New directors are W. G. Anderson, Chestnut & Anderson Feed & Grain Co., Hopkinsville, and G. C. Cox, Muehlenberg Hatchery, Central City. Holdover directors are Tom Coons, Monarch Milling Co., Mt. Sterling; Ray T. Scott, Auburn (Ky.) Mills; Louis F. Shadburne, Henry Fruechtenicht Co., Louisville; William M. O'Bryan, Owensboro (Ky.) Grain Co., Inc.; Edward C. Aubrey, Aubrey Feed Mills, Inc., Louisville; Charles W. Fedders, J. H. Fedders, Inc., Covington; Donn D. Early, Early & Daniel Co., Cincinnati, and Joe Haydon, Haydon Mill & Grain Co., Springfield.

The first speaker on the program Aug. 18 was Penrose Ecton, president of the Lexington Chamber of Commerce, who espoused a theory of "Business Can Be Fun." To help a firm smooth out rough spots, he suggested that management capitalize on humorous, everyday incidents to create high morale among the employees.

Public Relations

Richard L. Kathe, director of public relations for the American Feed Manufacturers Assn., Chicago, in his speech entitled "The Best Things in Life Aren't Free," said that public relations can be the finest product of a firm or its poorest. He said that whether a firm desires it or not, public relations are continuous. He described public relations as "mass human relations" and suggested that a program revolve around two axioms: (1) what we are, and (2) what people think we are.

Mr. Kathe pointed out that a large firm can hire an expert public relations man to come in, but for a dealer or a smaller manufacturer who wants to set up a program, he recommends seven points: (1) think, (2) build a team, (3) take an interest in community affairs, (4) know your agricultural teachers and leaders, (5) pay attention to veterinary relations, (6) emphasize banker relations, (7) watch your press and radio relations. Mr. Rahiya presided at the morning business session.

Agricultural Outlook

The final speaker of the convention was Ray Bowden, former executive vice president of the Grain & Feed Dealers National Assn. Mr. Bowden, calling on his years of experience, pointed out that agriculture is in constant flux. A continuous parade passes in front of persons interested in agriculture. Crops change, centers of production relocate, animal production areas change and consumption centers also move. He said the changes which have taken place in the last 15 years are unbelievable unless we sit down and examine them.

Mr. Bowden said for the outlook, that farmers are quite aware of inflation. America never has been through a severe period of inflation, so the public at large is not afraid of it. However, it looks certain, and he deplores the results, he said. Mr. Bowden said he believes that the period of high support prices is over, and that subsidized exports will not work. All our competition will lead to bankruptcy of farms. Increased industrial uses of farm products hold small hope, he said.

It appears that farmers are in for a period of wringing-out, although the long term is good. By 1980, he said, the population will have increased, farmers will be efficient, marginal farms will be gone, farms will be bigger and corporate or purely commercial farming will have arisen to replace our present system.

The afternoon of the first day was taken up with a bus tour of two nearby horse farms and a tour of the University of Kentucky experimental facilities. Later that evening a group gathered for an outdoor chicken barbeque at the University of Kentucky Coldstream Farm.

Other social and entertainment activities included a luncheon and card party for the ladies Aug. 19, and the final afternoon also included golf and swimming. The annual banquet concluded the meeting.

At the banquet, Fred M. Schardt, Bemis Bro. Bag Co., Louisville, was recognized and presented with a gift

Advertisement

Dr. Herbert S. Wilgus Joins Ray Ewing Nutritional Staff

Famed Nutritionist Becomes Vice President and Director of Research For National Feed Supplement Firm

PASADENA, CALIF.—Ray Ewing, President and Founder of The Ray Ewing Company, Pasadena, California, announced the appointment of Dr. Herbert S. Wilgus as Vice President and Director of Research and Nutrition for the Ewing firm.

Outstanding History

Dr. Wilgus brings to The Ray Ewing Company one of the outstanding histories of service and accomplishment to the American Poultry and Livestock Industry. With a degree in Poultry Husbandry and a doctorate in Nutrition from Cornell University, Dr. Wilgus has successfully served his Alma Mater, Cornell, as an Investigator in Poultry Nutrition—Colorado A & M College as Professor and head of their Poultry Husbandry Department for 14 years—Associate Director of the Colorado Experiment Station and as Vice President and Director of Nutrition for the Peter Hand Foundation since 1950. During World War II Dr. Wilgus served as Nutrition Officer of the Sanitary Corps, holding the rank of Captain.

Ray Ewing

Honors Bestowed

Evidence of Dr. Wilgus' accomplishments include membership in Sigma Xi (honorary) A.A.A.S. (Fellow), Poultry Science Association, World Poultry Science Association, Society for Experimental Biology and Medicine, Society for Animal Production and the Animal Nutrition Research Council.

He has served in various capacities on many state and national committees such as the Colorado Research Advisory Committee, The Research Council of the American Demydrators Association, The Research Committees of The Brewers Yeast Council and of the Poultry and Egg Nutritional Board.

Scientific Contributions

Dr. Wilgus' record includes many research contributions including his original work on calcium and phosphorus requirements of chicks, the role of manganese, calcium and phosphorus in prevention of perosis, the need for animal protein factor in corn-soy diets, goitrogenicity of soybean oil meal, iodine requirements of chickens, factors influencing interior quality of eggs, factors involving hatchability of eggs at high altitudes, estrogens for fattening chickens, antibiotics for poultry and swine, protein levels for pigs, effect of antitoxidants and sources of pigment on pigmentation of broilers, factors influencing the stability of vitamin A.

For the past eight years Dr. Wilgus has done extensive work in the formulation of commercial feeds for all types of poultry and livestock.

Future Plans

In joining The Ray Ewing Company, Dr. Wilgus will be working with one of the best balanced staffs of nutritional experts in the feed supplement industry. Ray Ewing is considered one of the outstanding national leaders in poultry nutrition and Executive Vice President, Jack Plonsky, has been a leader in animal nutrition for over 35 years. These combined talents will pace a program of research, new product development and nutritional service for feed manufacturers throughout the country. A call to The Ray Ewing Representative serving your area will put this team of nutrition experts at your service.

Dr. Herbert S. Wilgus

Ray Ewing Co. Announces New Growth Stimulant

PASADENA, CAL. — The development and sale of a new growth stimulant for poultry and turkeys have been announced by The Ray Ewing Co.

The new product, an antibiotic feed supplement, is called "Atterimin." It is described as "the first fermentation product with a guaranteed potency that has been developed and produced primarily as a growth stimulant."

Announcement of the new feed supplement was made by W. R. (Ray) Ewing, founder and president of The Ray Ewing Co.

Research work on aterrimin, he said, was conducted in cooperation with the Western Regional Research Laboratory, U.S. Department of Agriculture, Albany, Cal.

The cost of fortifying a ton of feed with 20,000 units of aterrimin is expected to be less than 50¢, Mr. Ewing said. This is the level recommended for starter and broiler feeds.

PROVED ON-THE-FARM
VICTOR
FEEDS
THE CRETE MILLS
CRETE, NEBRASKA

Egg Shell Quality
begins with
EGGSHELL
BRAND
Oyster Shell

Poultrymen are being told the EGGSHELL BRAND story in advertisements and point-of-purchase displays wherever EGGSHELL BRAND Oyster Shell is sold.

Take advantage of this complete promotional program. Sell the really digestible, soft reef shell that has become the standard of the industry.

EGGSHELL BRAND OYSTER SHELL
a product of
OYSTER SHELL CORPORATION
BALTIMORE, MARYLAND

for outstanding service to the association during his three years as secretary-treasurer.

Feed Formulation

"Formulating Feeds for Today's Needs" was discussed by Dr. Herbert S. Wilgus, vice president and director of research, Ray Ewing & Co., Pasadena, Cal.

Dr. Wilgus pointed out that today's needs demand broad skill and judgment on the part of the nutritionist, for the nutritionist must keep economic considerations in mind while he meets nutrient requirements that vary among breeds and strains and also vary under the influence of environmental factors.

"Cost to produce a unit of marketable product of the quality desired by the consumer is increasingly and properly the final criterion," he said. "So-called least-cost rations must achieve this goal."

Among the areas where broad skill and judgment are required, he said, is the use of sources of unidentified factors for growth or for rumen bacteria.

Use of unidentified growth factors or such additives as vitamin E, folic acid, antioxidants and some trace elements should be considered as "insurance," he said. In this connection, he pointed out that breeding rations are the most important in the life cycle and therefore justify the "highest premium" when the economy of the feed is considered.

Drug Additions

The economic justification for adding drugs, such as antibiotics, coccidiostats, hormonal substances and vermicides requires knowledge of the conditions of the trade area and even on the individual premises, he said. He mentioned that it may necessitate custom-mixing for cases on which adequate responses are obtained.

He also mentioned that the ever-growing number of large poultry and livestock operations are increasing the need for custom-mixing of feed for individuals.

Another area where knowledge and skill are needed, he said, is in ascertaining the availability and amount of amino acid, phosphorus, etc., in the ingredients in a ration. He pointed out that the quality of each ingredient becomes increasingly critical as the efficiency of the consuming animal improves. Improvement in this area is essential, he said.

Beef Feeding Research

Three beef feeding tests at the University of Kentucky were discussed by A. R. Parsons, Fischer Packing Co., Louisville. Included were a test of the effects of Terramycin and diethylstilbestrol on fattening steers being fed a supplement where all the protein was supplied by urea; a test of the effect of graded levels of hydroxyzine, and a test of the effects of Terramycin additions to the salt ration of growing steers implanted with stilbestrol.

He also suggested that consideration be given to creep feeding calves and to increasing the level of nutrition of wintering rations for beef cattle.

"By increasing the efficiency of production with the additives described here the job is not done until management programs for the production of beef cattle are used that will keep an animal growing at the maximum rate throughout his life," he said.

"Many cattle are wintered on low levels of nutrition so that rapid and economical gain may be made later. This practice is not efficient and will not allow advantage of the new developments to be taken by beef producers. Therefore, programs of production must be altered and levels of nutrition must be improved if beef production in this area is to be really competitive. There are many opportunities here for the feed manufacturer."

Kentucky Feed Picture

The Kentucky feed and livestock picture was presented by Bruce Poundstone, head of the Department of Feed and Fertilizer Control at the University of Kentucky.

Opportunities for expansian in feed tonnage, he said, rest on two things. The first lies in feeding the birds and animals already considered a part of the Kentucky agricultural economy. The second is found in integration.

The company that does a good, economical job will have whatever share of the present business that it is best able to serve. There is nothing to indicate, however, that animal and bird populations will increase under present circumstances, he said.

There is no reason, however, why the type of expansion gained through integration can't come to Kentucky, he said. The egg is integrated from nest to table and the nest will be wherever the farmers and organizations come up with the lowest costs, the selling outlets and the best job of selling the product. After a while, quality will lose much of its competitive advantage and whether Kentucky is to compete successfully with other areas will not depend on closeness to market or ideal climatic conditions as to who can do the best job. A good job will mean more feed tonnage.

Mr. Poundstone also discussed the state's feed tonnage of recent years, and pointed out that while Kentucky dairy numbers are as high or higher than in the past, dairy feed sales reported have declined.

"It is my belief that sales have not declined," he said, "but the way the feed is supplied is changed. The rise in custom mixing has occurred during the same period."

He said there is no data on the amount of feed custom mixed in Kentucky, but he said the state has 343 custom mixing operations. Twenty-four of them are portable mills.

Quality in Dairy Feeds

Dr. Don R. Jacobson, dairy scientist at the University of Kentucky, spoke on the importance of quality in dairy feeds, basing his discussion on recent research at the university.

In a comparison of good quality and low quality hay fed with a good quality and low quality concentrate mixture, it was found that the kind of hay fed affects milk production more drastically than the kind of concentrate.

"It is also interesting to note that the trend in milk production agreed with the trend in body weight changes," he said. "In other words,

(Continued on page 14)

SPECIFY
Columbia Calcium
COLUMBIA QUARRY CO.
1007 Washington Ave.
ST. LOUIS 1, MO.

Which grain dryer is self-cleaning?
ARID-AIRE
...and you can
RENT IT!
Daycom, Inc.
811 Third Ave. N.E. • Minneapolis 13

Bulkanizer
Truck Body
puts you in the Bulk Feed Business for about $1500*

. . . less cost than any other similar unit

Easy one-man operation A complete, self-unloading truck body for only slightly more than a hydraulic dump box. To unload, simply swing auger into position and start. Standard length auger discharges up to 22 feet high. Raises hydraulically and swivels a full 360°. Steep V body design eliminates sweeping or scooping. All operating controls together.

Unloads up to 1,200 lbs. per min. You spend less time per delivery. Make more deliveries per day. Two models; capacities of 8,800 lb. and 11,760 lb.

Low maintenance costs No chains or sprockets to wear out or bother with. Steel-cut, case-hardened gears run in oil. The three gear box elbows are interchangeable for easy service. Automotive seals keep grease in, dust and feed out. Bulkanizer farm trailer available for feeders in 1½, 2 and 3 ton models.

*Mounted on your truck frame. Prices vary slightly according to location.

NORTH AMERICAN MFG. CO.

Quality performance and low cost make the Bulkanizer your most profitable way to get into the big bulk feed business. Mail this coupon today for more information.

Sioux City, Iowa Dept. FS-8

Please send me further information on the Bulkanizer truck bodies. I understand there's no obligation.

NAME .....
ADDRESS .....
CITY ..... STATE .....

FOR GREATER EGG PRODUCTION

Testwork with and breeder rations

the buy is Baciferm®! Baciferm—the zinc bacitracin antibiotic supplement—has demonstrated its effectiveness in terms of higher egg production, lower mortality, increased feed efficiency and greater profits. The test work summarized below clearly shows why it's good business to incorporate Baciferm in the feeds you furnish your customers.

1 MISSISSIPPI STATE COLLEGE EGG-LAYING TEST was conducted for six months, from March to September 1957, with caged White Leghorns.

Treatment	Antibiotic Per Ton of Feed (grams)	Egg Production (hen day basis)	Pounds Feed Per Dozen Eggs
Control	0	49.1%	5.6
Combination*	200 (I)	57.8%	5.0
BACIFERM (zinc bacitracin)	200 (I)	55.3%	5.1
Terramycin® (oxytetracycline)	200 (I)	52.0%	5.3
BACIFERM (zinc bacitracin)	35	53.9%	5.7
Terramycin® (oxytetracycline)	35	52.8%	5.4

(I) = Intermittent feeding (4 days per month); other treatment fed continuously.

*Combination of 100 grams zinc bacitracin and 100 grams oxytetracycline.

The data shows that Baciferm produced excellent results in improving egg production and egg/feed ratio. While both antibiotics tested gave similar results, note that hens fed Baciferm did slightly better. Best results were obtained by intermittent feeding of the antibiotic combination containing Baciferm.

2 V.P.I. EXPERIMENT STATION LAYING HEN TEST investigated the use of Baciferm antibiotic supplementation at low and high levels on rate of lay, feed conversion and fertility. 44 pullets were on test during the 46-week period November 1, 1956 through September 21, 1957.

Treatment	Antibiotic Per Ton of Feed (grams)	Egg Production	Lbs. Feed per Doz. Eggs	% Fertility	% Hatchability of Fertile Eggs Set	Mortality No.
Control	0	60.5%	4.68	91.7	89.1	4
BACIFERM (zinc bacitracin)	10	73.3%	4.37	95.4	90.4	5
BACIFERM-PB* (zinc bacitracin)	10	73.1%	4.46	98.2	90.3	6
BACIFERM (zinc bacitracin)	100	72.0%	4.28	97.3	92.3	2
BACIFERM-PB* (zinc bacitracin)	100	70.7%	4.55	98.5	92.4	1

*Contains zinc bacitracin plus penicillin (3:1 ratio)

Egg production was increased between ten to twelve percent by feeding zinc bacitracin. The egg-feed ratio was improved as much as 8.5% and one of the best ratios was obtained with 10 grams zinc bacitracin per ton. Fertility was increased as much as 6.8%. Even with this betterment of fertility, zinc bacitracin then increased the percent of fertile eggs hatched. Note also the lower mortality at 100 gram per ton level.

the buy is

antibiotics in layer gives you the proof

3 **THE JOHNSON LOW-LEVEL HEN TEST** conducted near Terre Haute, Indiana, for 27 weeks, January 6 to July 7, 1957, investigated the use of Baciferm during slumps in egg production. There were 53 White Leghorns in each test group.

Treatment	Antibiotic Per Ton of Feed (grams)	Drop in Egg Production %	Extra Eggs Due To Zinc Bacitracin Eggs/1000 birds/day	Extra Profits Per Day/1000 Birds	% Mortality
Control	0	10.3	—	—	17.0
BACIFERM (zinc bacitracin)	10	6.3	63	$1.80	8.5
BACIFERM-PB* (zinc bacitracin)	10	6.5	65	$1.74	6.4
BACIFERM-PB* (zinc bacitracin)	25	3.1	70	$1.73	8.7

*Contains zinc bacitracin plus penicillin (3:1 ratio)

In this test, the inclusion of Baciferm in the ration resulted in a minimized drop in egg production compared to the control. Baciferm increased profits, raised egg production, reduced mortality and improved the feed efficiency.

4 **MICHIGAN FIELD TRIAL** was conducted at a large egg farm in Central Michigan on 3551 White Leghorns. A commercial all-mash, layer-breeder feed was fed throughout the test period of 6 months to about half the birds. The other half was fed the feed with zinc bacitracin incorporated at a level of 50 grams per ton. The economics are summarized below.

	No Antibiotic	BACIFERM Zinc Bacitracin (50 grams/per ton of feed)
Return from hatching eggs* 60¢/dozen	$8540.40	$8689.80
Total feed costs*	4216.50	4198.95
Return over feed costs	4323.90	4490.85
Gain from feeding zinc bacitracin	—	166.95

*Feed $90.00/ton; zinc bacitracin cost $3.00/ton of feed.

Results: the feed containing zinc bacitracin gave a greater net return than the basal feed alone. This field trial shows that if production is low from the type of stresses involved in this test, it is economically worthwhile to add an antibiotic. An extra penny invested per dozen eggs could make the difference between profit and loss.

BACIFERM IS GOOD BUSINESS FOR YOU! And good insurance for your customers. Baciferm – at high levels or at low levels – does the job in laying rations. Outstanding for broilers, turkeys and swine, too. Only Baciferm contains the antibiotic zinc bacitracin made exclusively by CSC under Patent No. 2,809,892 issued October 15, 1957. Baciferm also supplies B-vitamins, high protein, vitamin K and unidentified growth factors, as well. And – Baciferm costs from $3 to $6 per ton *less* than the tetracyclines. More and more feed manufacturers are discovering –

BACIFERM®

(Zinc Bacitracin Antibiotic Supplements)

Animal Nutrition Department **COMMERCIAL SOLVENTS CORPORATION** 260 Madison Avenue, New York 16, New York

IN MEXICO: Comsolmex, S.A., Mexico 7, D.F. • CANADIAN SALES REPRESENTATIVE: Norman Stark

CSC

the cows that milked the most lost the least body weight."

He pointed out further that the cows consuming poor concentrate consumed less of either good or poor hay than did those consuming the good concentrate. This indicates, he said, that the feeding of a low-quality concentrate may lead to the decreased consumption of hay.

The cows fed the poor quality concentrate refused from 0.6 to 0.9 lb. concentrate mixture a day, while the cows on good concentrate consumed all that was offered.

Overfeeding Indicated

Even though the cows were fed according to Morrison's standards, he said, an estimation of the TDN supplies indicated that all groups were overfed from 3 to 5.6 lb. TDN per cow per day. This raises the question of adequacy of the TDN feeding standards, he said.

Other work at the station brought another observation from Dr. Jacobson. He said concentrate is usually thought of as that portion of the cow's ration which closes the gap between energy required and energy supplied by the forage or roughage. However, it cannot do this, he said, if the cow merely substitutes one for the other and if the concentrate does not support any more milk production than does the forage.

"Therefore, the challenge is to maintain and improve the quality of concentrates (1) so the cow will consume them in addition to rather than instead of forage and (2) so that the feeding of concentrates will support more and more milk production than does the feeding of forage alone," he said. "In this way, cows could be fed in accordance with their requirements to produce milk at the maximum of their genetic ability."

A study comparing the feeding of corn cobs and a liquid urea-molasses-mineral mix with and without ethyl alcohol to yearling dairy heifers showed that the animals failed to consume the necessary energy for optimum growth. He said it was surprising to note, however, that some of the animals made good gains even though essentially 100% of the digestible protein equivalent was supplied by urea. No evidence of urea toxicity was noted, he said, indicating that urea can supply essentially all of the needed nitrogen, at least under certain conditions.

Swine Developments

Dr. C. E. Barnhart, swine researcher at the University of Kentucky, listed several developments in swine feeding that "undoubtedly will be widely adopted and will contribute significantly to a more efficient swine industry." The developments are these:

1. Greater use of pasture and silage for brood sows.

2. Hormones and bactericidal agents for brood sows prior to and following farrowing to stimulate milking ability and control baby pig diseases.

3. Improved pig starters.

4. The determination of more exacting nutritional requirements of the growing-finishing pig and the subsequent application into growing-finishing rations is resulting in faster, more efficient gaining pigs. This has made possible the successful feeding of pigs in confinement.

5. Antibiotics, arsenicals and nitrofurans for disease control.

6. Continuous, low-level feeding of anthelmintics. Under this point, he noted that Hygromix has been found to be very effective for continuous control and has many advantages, including ease of mixing. The manufacturer's recommendation to feed it only to 125 lb. body weight should be followed, he said, for some growth-depressing effects may be observed beyond that weight.

Dr. Barnhart also observed that nf-180 (furazolidone) has been found to be very effective in controlling scours in baby pigs.

Poultry Research

A series of poultry feeding experiments conducted at the Princeton and Robinson stations of the University of Kentucky were discussed by John Begin, poultry researcher at the university.

He said results of the two-year study indicate that there was higher egg production and less laying house mortality when the grain portion of the feed was hand fed. The grain was fed in amounts which varied with the season of the year and with production.

In the experiments, which used New Hampshire chicks of a broiler production strain, several pens were fed the university's 20% laying and breeding mash, and the following grains were hand fed: Corn alone, oats alone, half corn and half oats; 50% corn, 25% oats and 25% wheat.

Over-all results indicate, he said, that the best performance was obtained when oats alone was fed as the grain. Corn and oats also gave good results. The corn, oats and wheat combination or corn alone gave poorer results in most cases.

Mortality in the laying flock was highest in the pens fed corn alone or in combination. A high percentage of this mortality was pickouts or cannibalism, he said. Since the feeding of corn increases the heat or calory intake of the pullets, it appears that the New Hampshire pullets used in these studies produced more and experienced less cannibalism on rations that are higher in fiber and lower in energy. This verifies previous observations at the university, Mr. Begin said.

He pointed out, however, that much of the cannibalism could have been prevented by debeaking the pullets.

Dr. W. P. Garrigus, associate director of the University of Kentucky Agricultural Experiment Station, presided at the morning session Aug. 19 when Mr. Begin, Mr. Poundstone, Dr. Jacobson, Dr. Barnhart and Mr. Bowden spoke.

GENERAL MILLS DIVIDEND

MINNEAPOLIS—The board of directors of General Mills, Inc., has declared a quarterly dividend of $1.25 per share on General Mills 5% preferred stock payable Oct. 1, 1958 to stockholders of record Sept. 10, 1958. This is the 76th consecutive quarterly dividend on General Mills, Inc., 5% preferred stock, the company announced.

The Biggest Mobile Value in the Feed Industry

CHAMPION

MOBILE MILL EQUIPMENT

Champion's fast and accurate grinding action, and its large, 2- to 3-ton mixing capacity, will process a high tonnage of top-quality feed at a lower cost than units of smaller volume. This larger capacity, plus labor-saving, easy one-man operation, puts Champion owners in a strong competitive position. More than two tons of bagged concentrates can be hauled on the large platform next to the mixer, saving extra truck and man-hour expense. And with Champion's new sheller arrangement, ear corn and grain is conveniently fed by the same drag feeder which feeds the hammermill unit — without using an auxiliary feeder! A simple control valve in the feederhead diverts the ear corn into the sheller or into the mill unit as desired. You'll save on your original investment, too, because 29 years of manufacturing experience brings you the Champion at a fair and honest price. Large capacity at a lower cost—low upkeep and labor-saving features—makes Champion the biggest value in the mobile feed industry today. Send us your name and address, and we'll send you complete information on the Champion.

CHAMPION PORTABLE MILL CO.
2109 COMO AVE. SOUTHEAST • MINNEAPOLIS 14, MINNESOTA

VITAMINS
PRECISION BUILT FOR PRECISION NEEDS
VITINC — VITAMINS, INC.
BASIC MATERIAL MANUFACTURERS and HEADQUARTERS FOR TECHNICAL INFORMATION
Write or Wire Your Requirements
VITAMINS, INC.
809 W. 58th Street, Chicago 21, Ill.

Mill or Elevator design and construction. Milling Plants, Storage, Grain Elevators, Warehouses.
Frame or Fireproof Construction
Hogenson CONSTRUCTION CO.
722 Flour Exchange • Minneapolis 15, Minn.

NOW...more than ever...it's time to look to your

NATIONAL FEED INGREDIENTS ASSOCIATION

for industry-wide service and support

NFIA is an "action-service" organization which offers you equal-voice opportunities in shaping your future . . . if your future is in the feed industry.

That's true whether you're a feed ingredient producer, a broker or a feed manufacturer. Your NFIA provides the one, logical trade association for these related groups to mutually build a brighter future for the broad range of feed industry associates.

It is a "common-ground-meeting-place" for feed ingredient producers and suppliers and feed mixers . . . a working combination which ultimately results in better service to farmers and ranchers.

NFIA will stimulate improved selling throughout the industry . . . and supply the help to do it. This assistance is based on feed industry experience and knowledge. It covers the vital areas of better selection of sales personnel and training; new-product sales development; forceful selling methods; accurate product information — and will include an Annual Sales Clinic, free from the distractions of convention time.

NFIA works with you and for you . . . supplies "clear across the board" assistance with government and regulatory agencies on such important situations as labeling, rulings and regulations.

Research is another NFIA benefit in which you will share. Through SAC — Scientific Advisory Committee — NFIA is the only national feed trade association to sponsor college research in livestock and poultry nutrition. Other research will strive for the answers in improved farm management practices; disease, pests and stress factor controls; selling; merchandising; and marketing.

To keep public recognition alive and vital, NFIA will carry on a complete program of Public Relations designed to publicize and benefit the feed industry and agriculture.

NFIA will represent you wherever improvements and refinements affect trade practices and changes. It will relieve you and your company of personal attendance at conferences legislating and influencing the feed industry.

A powerful, worthwhile Annual Convention is also a part of the NFIA agenda . . . programed to give you the benefit of authorities in the feed industry and the latest in management techniques. This year's convention is scheduled for September 17-18-19, and is open to members and non-members alike — to fully acquaint feed ingredient producers, brokers, feed manufacturers . . . in fact every segment of the feed industry . . . with NFIA aims and progress. It is important to your future that you attend.

You can grow with NFIA . . . and benefit from industry-wide service and support in solving problems and developing projects through mutual effort. Write today for complete details.

FOUNDED FOR YOUR FUTURE . . . INDUSTRY-WIDE SERVICE

NATIONAL FEED INGREDIENTS ASSOCIATION

212 Equitable Bldg., Des Moines, Iowa

J. J. O'CONNOR,
President
Executive Vice-President of Walnut Grove Products Co., Inc., Atlantic, Iowa.

C. S. LANGEN,
Vice-President
Advertising Manager of Moorman Mfg. Co., Quincy, Illinois.

W. P. MANN,
Vice-President
District Manager, Merchants Chemical Co., Omaha, Nebraska.

WM. A. POWER,
Treasurer
General Manager and Vice-President of Puritan Laboratories, Inc., Des Moines, Iowa.

PETER W. JANSS,
Executive Secretary
National Feed Ingredients Association, 212 Equitable Bldg., Des Moines, Iowa.

Cooperatives Plan New Swine Marketing Setup For Iowa Hog Areas

DES MOINES — Establishment of cooperative concentration yards for grading and sale-on-grade of Iowa hogs is expected to get under way within the next few months, according to a recent news story in the Des Moines Register.

J. S. Russell, Register farm editor, said the various producers' cooperative commission firms are expected to assist in the new marketing setup in Iowa.

Actual sale of hogs in eastern Iowa is expected to be made through the Illinois Agricultural Assn. (Farm Bureau) marketing agency. The first concentration yard to be set up by the Iowa Farm Bureau Federation probably will be at Washington, Iowa, in the heart of an area where many hogs are produced, the news article said.

The decision to work with the Illinois sales agency in eastern Iowa was said to have been based on the fact that the Illinois group is already in operation, and eastern Iowa and western Illinois hogs are in many instances going to the same markets.

The story stated that the program of quality and meat-type hogs is to be developed to a greater extent in Iowa than in other states. Efforts will be directed toward getting premium prices for the meat-type hogs, thus encouraging further improvement of quality, the news story said.

Virginia Outlines Plans For Poultry Convention

RICHMOND, VA.—More than 500 poultrymen and allied industry representatives are expected at the Virginia State Poultry Federation convention to be held Oct. 14-15 at Natural Bridge, Va.

A recent announcement of plans said the convention will focus attention on poultry trends in general and the changing picture of the Virginia poultry industry in particular.

Highlights of the convention will include a progress report on the state's poultry expansion program (PEP) which is being coordinated by the Virginia federation. Also planned are an awards banquet and a general program slanted directly toward particular segments of the industry in the state.

Turkeymen will survey Virginia's competitive position in the nation's turkey market, and broiler producers will take a look at market prospects and opportunities to guide their planning for 1959.

The Virginia Egg Council is building an egg program for the convention. Plans call for a discussion of the controversial trend toward specialized growing of started pullets as well as discussions of the bottlenecks to production and merchandising along with other subjects.

John Rusinko

MARKETING SERVICES—John Rusinko, formerly advertising manager of Minneapolis-Moline Co., has joined Archer-Daniels-Midland Co., Minneapolis, as manager of a newly-formed marketing services department. The appointment was announced by Gene Fowler, director of public relations and advertising. Mr. Rusinko's duties at ADM will include sales communications and training, planning and conducting sales meetings, development of sales aids and sales analysis. He is a graduate of Carleton College, and holds a master's degree from the University of Minnesota.

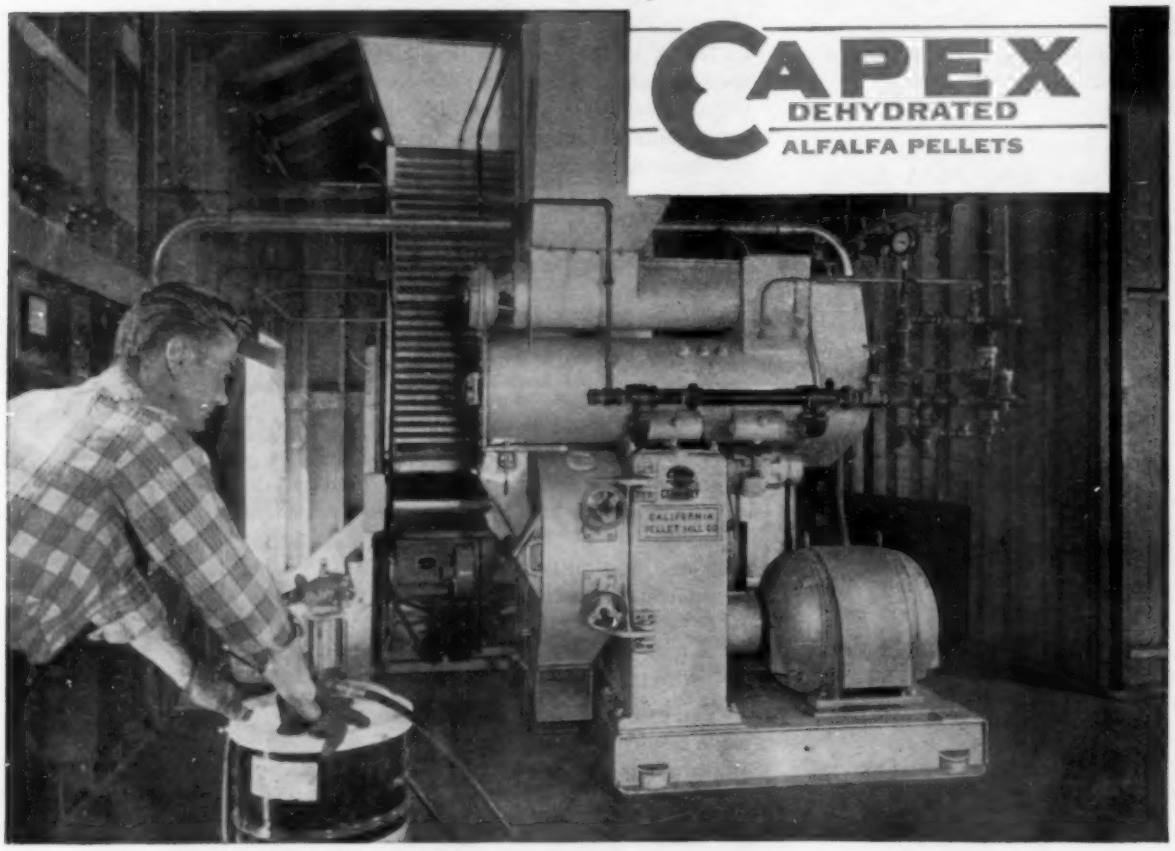
Du Pont Announces 4 New Assignments

WILMINGTON, DEL. — New assignments for four men in biological chemicals sales have been announced by the Du Pont Grasselli Chemicals department.

Merle E. Ward, who has been manager of agricultural chemicals for Du Pont Co. of Canada since this company was organized, has been assigned to Wilmington as general product manager of agricultural chemicals. He succeeds Jack M. Zimmerman, who moves to the post of assistant district sales manager in Houston, Texas.

Dr. Dale E. Wolf has been transferred from assistant district sales manager in Philadelphia to the same position in the Atlanta district. Eugene F. Clement, who has been a Du Pont sales representative in the intermountain area, has been transferred to the Atlanta district.

✓ Exclusively on California Pellet Mills



• Based on Experience

ONE CPM LEADS TO ANOTHER

There's nothing like experience with one California Pellet Mill to help you decide on another when the time comes for new pelleting equipment.

The A. B. Caple Company, for example, has operated a CPM "Century" 100 in their Toledo, Ohio plant for the past two years. So when they decided early this year to add a pelleting section at their Tontogany, Ohio plant, choice of another CPM "Century" was a natural one.

To take full advantage of the fast-expanding market for pelleted feeds, it will pay you to follow the leaders who make CPM their first choice—and who repeat on CPM when additional units are needed.

Let CPM research, experience, and know-how as pioneers of pelleting equipment, help you select the *one* model that best fits your needs—one that will *continuously produce more pellets per horsepower at lowest cost per ton!* Write for full information or call your nearest CPM representative.

CPM CALIFORNIA PELLET MILLS

1800 Folsom St., San Francisco 3, California
1114 E. Wabash Ave., Crawfordsville, Indiana
101 E. 15th Ave., North Kansas City 16, Missouri

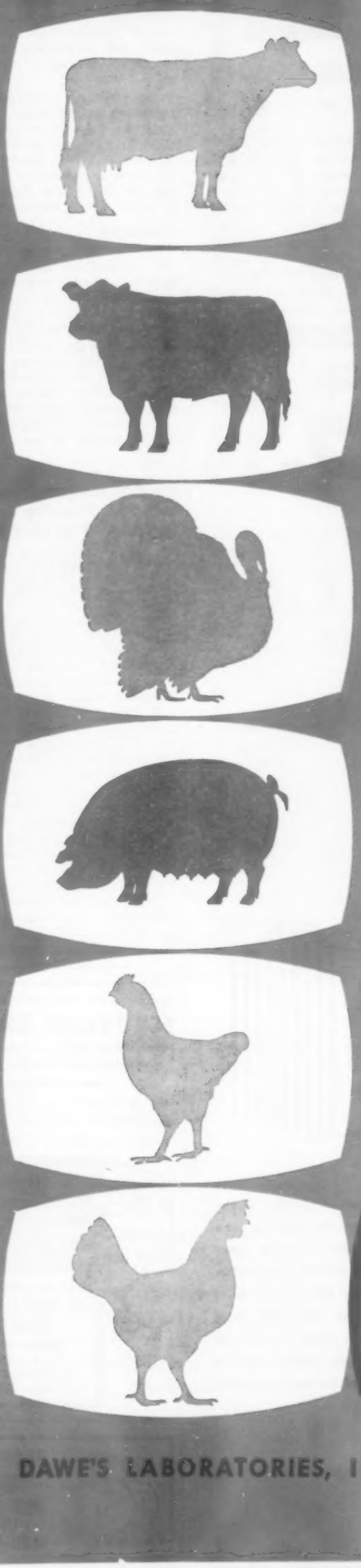
Sales & Service Representatives also in: Albany · Atlanta · Columbus · Davenport · Denver · Fort Worth · Los Angeles · Minneapolis · Oklahoma City · Omaha · Richmond · Seattle · St. Louis

ONLY CPM MAKES A COMPLETE LINE OF PELLET MILLS

KAFIR & MILO
Largest Dealers in Southwest
MID-CONTINENT GRAIN CO.
Board of Trade Victor 3-4671
KANSAS CITY, MO.

Manufacturers and Suppliers of
EXPELLERS
SOLVENT EXTRACTION EQUIPMENT
DRYERS • FLAKERS
GRAIN EXPANDING EXPELLERS
MATERIAL HANDLING EQUIPMENT
Write for information and prices
The V. D. ANDERSON COMPANY
Division of International Basic Economy Corporation
1900 West 96th Street, Cleveland 2, Ohio

In DAWE'S Vitamelk Programs



dependability makes the difference

Program your feed business the Vitamelk way. Dawe's Vitamelk program represents far more than fortification products. It is a way of doing business on the basis of having a nutritional laboratory affiliation. Dawe's dependable professional services will provide you sound counsel and relieve you of many of the details of managing a successful feed business. You will have added assurance that you are supplying your customers top-quality feeds.

This Is the Vitamelk Program

1. **VITAMELK**—a comprehensive vitamin, trace mineral, antibiotic and unidentified factors fortifier. *Full* fortification in one package.
2. **COMPLETE FORMULATIONS** for farm-tested feeds.
3. **TAG INFORMATION** for today's complicated feed tag requirements.
4. **COMPLETE FEEDER INSTRUCTIONS** on how to use Vitamelk-fortified feeds to best take advantage of their great built-in power.
5. **DAWE'S QUALITY CONTROL** laboratories are a remarkable help in solving special problems.
6. **MERCHANDISING** and sales counsel.
7. **CONTINUING RESPONSIBILITY** for applying the latest nutritional knowledge to your feeds.

Dawe's specialized nutrition, manufacturing and merchandising know-how is yours—yet you pay for Vitamelk only—when you program your business the Vitamelk way. Write for specific information on complete programs for poultry, swine, beef and dairy cattle.

FOREIGN OFFICES:

Belgium—13 Courte rue des Claires, Antwerp
Italy—Corso Magenta 81/83, Milan
Mexico—Sierra Leona 755, Mexico 10, D. F.
Venezuela—Apartado 3050, Caracas

Dawe's

World's Oldest and Largest Specialists in Vitamin Products for Feeds

DAWE'S LABORATORIES, INC.—4800 South Richmond Street, Chicago 32, Illinois

Visit Dawe's Booth at the World's Poultry Congress in Mexico City

WHAT'S NEW IN FEEDING?

Putting Research to Work

By Spencer H. Morrison, Ph.D., D.V.M.

The Effect of Vitamin A Supplement on the Incidence of Pneumonia in Lambs.

•A. H. Hamdy, W. D. Pounden and J. W. Hibbs, Ohio Agricultural Experiment Station, Wooster; Journal of the American Veterinary Medical Assn., Vol. 133, No. 2, July 15, 1958.

ABSTRACT

Forty-five Shropshire lambs, four to seven weeks of age, were divided into two comparable lots to determine the effect of orally supplemented vitamin A on the incidence of pneumonia during the nursing period. The first group of 22 lambs was given 10,000 U.S.P. units of vitamin A, orally, once a week from May 1, 1957, to weaning time on August 15, 1957. The second group of 23 untreated lambs served as controls. Vitamin A was not administered to any of the lambs previous to the experiment, as no evidence of pneumonia was present until after the initiation of the trial.

All lambs had access to alfalfa hay, and hay crop silage. Shelled corn and oats, equal parts of each, were fed in creeps during the vitamin A treatment. The lambs were kept in the barn until May 6 when they were turned out to pasture. After weaning, whole shelled corn was fed in the barn. All lambs were weighed every two weeks, and average daily gain was calculated for the first 30 days and at weaning time. All lambs were treated for worms on Aug. 15 and Sept. 15 with phenothiazine. Vitamin A was determined on 21 lambs prior to using the vitamin A supplement in seven pooled samples, and values were from 7.9 to 18.6 micrograms per 100 ml. of blood, with an average of 12.5 micrograms. One day after the first dose of vitamin A, a pooled sample from three treated lambs had an average of 30.1 micrograms of vitamin A per 100 ml. of blood.

The feeding of vitamin A slightly depressed weight gains (0.296 lb. vs. 0.311 lb.). The difference is not significant. At slaughter vitamin A did not increase slaughter grade or lower the incidence of pneumonic lesions. There was no death loss from pneumonia in either group during the trial.

COMMENT

High levels of vitamin A have been administered by some veterinarians in the past with some apparent degree of success in the field in both cattle and sheep for treatment of various respiratory conditions. Although the numbers are small in this experiment, the Ohio workers did not obtain such response in their work. It would be interesting to know whether or not graded higher levels and more extensive work would confirm or deny the opinion of practitioners.

•

Blood Values and Growth of Newborn Pigs Following Subcutaneous Implantation of Bacitracin Pellets

•M. J. Swenson, G. K. L. Underbjerg, D. D. Goetsch and C. E. Aubel, Kansas State College; American Journal of Veterinary Research, Vol. XIX, No. 72, July, 1958.

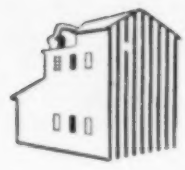
ABSTRACT

The offspring from two Hampshires and four Duroc-Jersey gilts (12 Hampshire, and 35 Duroc-Jersey) were used in an experiment to determine the effect of implanting 1,000-unit bacitracin pellets subcutaneously 36 hours after birth. At 8 weeks of age 18 of the 47 pigs were killed and examined histologically. Blood samples were taken at weekly intervals throughout the experiment. The two Hampshire gilts had been fed a garbage gestation ration, while the four Duroc-Jersey gilts had been fed a gestation ration at least meeting the minimum nutritive requirements of the National Research Council.

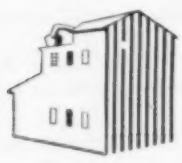
No effect on blood hemoglobin, hematocrit, mean corpuscular volume of erythrocytes, mean corpuscular hemoglobin, mean corpuscular hemo-

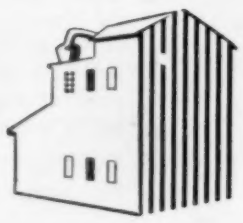
(Continued on page 22)

GROWING...

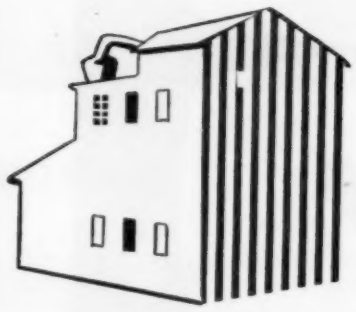


by feeds and services —





Ultra-Lifed Feeds and Services that is.



And there's a reason. The Ultra-Lifed Program gives you more than feed fortifications. It gives you exclusive vitamin and trace mineral blends to make feeds second to none in quality, but that carry a greater profit margin for you. In addition, Ultra-Life helps you sell your feeds with exclusive feeding programs and sales programs.

From the Atlantic to the Pacific, from Canada to South America, Ultra-Life fortifications and services for you are unmatched.

The revised edition of the Ultra-Life Book is now available—contains latest ingredient analysis information, energy tables, feed price conversions, and many other tables and charts of value to feed manufacturers. Write today on your letterhead for your free copy.

Ultra-Life LABORATORIES, INC.

Main Office and Plant East St. Louis, Illinois

One of the Country's Oldest and Largest Manufacturers of Vitamin and Trace-Mineral Products

SCROGGINS GRAIN CO.

Phone FE 5-3913 — Teletype: MP 344

WHOLE and GROUND GRAINS and SCREENINGS

MINNEAPOLIS, MINNESOTA

More and More . . . Feed Mills Are using More and More Stabilized ANIMAL FATS and MEAT PROTEINS

Find Out Why . . . WRITE NATIONAL RENDERERS ASSOCIATION

Organized in 1933

30 N. LA SALLE ST.

CHICAGO 2, ILL.

Phone FR 2-3209

PROFITABLE IDEAS FOR DEALERS IN THE CASH REGISTER

A life-size, bronze statue of the typical farm boy, stands at the entrance of Danforth Youth Center.

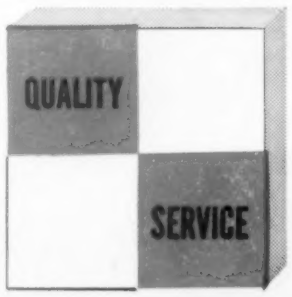
Dedicated to Inspire Farm Youth

Danforth Youth Center, a memorial to William H. Danforth, founder of Ralston Purina Company, is dedicated to the challenge and inspiration of Farm Youth. It is the world's first research center created to serve young farmers exclusively.

The Center perpetuates Mr. Danforth's challenge to "Live Tall, Think Tall, Stand Tall, Smile Tall." This is the philosophy of living he advocated to thousands of young people he knew and inspired.

The Youth Center is a place where farm youths can hold judging contests, field days and instruction sessions. It is staffed by specialists whose work, directed to the needs of farm youth, includes research on all major kinds of livestock shown by farm boys and girls.

By challenging and inspiring farm youth of today, the Center will, we sincerely believe, make a major contribution to successful agriculture of the future.



PURINA . . . YOUR PARTNER IN SERVING ANIMAL AGRICULTURE

WHEN THE

..LAST.WEEK.	WHEAT	CORN	OATS	RYE	SOYBEANS	SOR
7.526	305.685	86.053	12.715	6.088	6.036	10.507

MERCK

PRICE IS RIGHT

Barley can be the principal grain in your poultry rations—Western barley feeds treated with AGROZYME*—now rival feeding value of corn

*New enzyme mixture from Merck

GHUMS	..LAST.YEAR.WHEAT	CORN	BARLEY	OATS	RYE	SOYBEANS
54.638		288.492	124.450	24.411	10.495	5.858	4.980

Barley, one of the most important cereals grown in the west, should be fed as the principal grain if the price is right and, if AGROZYME is added to overcome problems of growth depression, lowered feed efficiency (in comparison to yellow corn diets) and sticky droppings.

Enzyme Treatment of Barley Feeds... A Practical, Profitable Milling Procedure

The work of Dr. James McGinnis and his associates at the State College of Washington—since confirmed by researchers in the Universities of Oregon and Utah and in the Merck Laboratories—has demonstrated the remarkable effects of enzymes in overcoming the objectionable features of feeds containing barley as the principal grain.

Tests under field conditions have showed that the addition of one pound of AGROZYME to one ton of feed containing as much as 1,000 pounds of barley yields results in growth and feed efficiency that closely approximate those obtained with corn. Birds fed enzyme-treated barley grow essentially as well as corn-fed birds with a considerable reduction in feed cost.

Not All Barleys Improved by Enzyme Treatment

Barleys grown in western states and western Canada appear to benefit most from the addition of AGROZYME regardless of variety.

What's more...treatment with AGROZYME makes barley rations more acceptable to chicks or poults.

AGROZYME—Only Feed Enzyme Standardized by Chick Assay

Consistent results are assured with the use of AGROZYME because its activity is measured by the most accurate, dependable means available—chick assay.

AGROZYME is the only enzyme available for use in feed with potency assured by chick assay.

AGROZYME Mixture is Developed to Meet the Exacting Standards of the Feed Manufacturer

Merck know-how, developed during years of serving the needs of the feed industry, has been applied in the development of AGROZYME. As with all other Merck microingredients, nutrients, custom premixes, and medicated feed supplements, THE MERCK MARGIN OF SURETY is your assurance of quality. Like other Merck products for the feed industry, AGROZYME is designed to meet the most exacting feed mill practices, and is:

• stable • palatable • free-flowing • nontoxic to farm animals • and resists separation during mixing or handling

What of the Future?

In cooperation with university and industry research teams, Merck research workers will continue to investigate the horizons opened by this new and exciting era in livestock nutrition. Merck & Co., Inc., Chemical Division, Rahway, New Jersey.

Merck branch offices serving the western states are located in Dallas, Los Angeles, St. Louis and San Francisco. Call our representatives serving your area. Delivery of an order of AGROZYME and other microingredients and premixes is no more than 48 hours away. Remember: There is a Merck microingredient for your every formulation need.

*TRADEMARK OF MERCK & CO., INC. FOR ITS BRAND OF AN ENZYME SUPPLEMENT

©MERCK & CO., INC.

AGROZYME* with THE MERCK MARGIN OF SURETY

MERCK & CO., INC. · CHEMICAL DIVISION · RAHWAY, NEW JERSEY

DOES ALL THREE JOBS AT ONCE

New IOWA PORTABLE FEED UNIT

- GRINDS FEED
- MIXES FEED
- BLENDS FEED WITH MOLASSES

Unsurpassed for quality, low operating cost, low maintenance cost

SURPRISINGLY LOW PRICED!

WRITE TODAY FOR LITERATURE AND PRICES

IOWA PORTABLE MILL CO. OELWEIN, IOWA

"Since 1928, Best Built for On-The-Farm Service"

KEES & COMPANY

Processors of DRIED FISH SOLUBLE PRODUCTS

A "MUST" IN EVERY SWINE OR POULTRY RATION

Call or write for complete information and price

327 S. La Salle St., Chicago 4, Ill. Phone HArrison 7-1528

globin concentration, number of erythrocytes in the circulating blood, total leukocytes, and nucleated erythrocytes or histological changes of organs was noted from the bacitracin pellet implantation. Growth was also unaffected by the pellet treatment. The blood picture of the pigs from the garbage-fed gilts indicated that garbage could be considered an inadequate feed for brood sows or gilts.

COMMENT

It has previously been reported (Noland et al., 1952) that 1,000 units of bacitracin implanted in pigs at two to five days of age would stimulate growth. This paper confirms work with pigs (Clawson et al., 1953; Perry et al., 1953, and Richardson et al., 1953), that bacitracin pellets will not stimulate growth of young pigs when implanted. It is also interesting to note that garbage feeding alone is an inadequate ration for brood sows and gilts. Practical garbage feeders for some time have been aware of the fact that it is necessary to supplement such rations. College workers have not felt it advisable to devote too much attention to research on such specialized problems as garbage-feeding operations. Heitman et al of California (1956-1957) has devoted some attention to problems of such operators in cooperative experiments.

Thomas H. Lawrence

TO LEAD SEMINAR — Thomas H. Lawrence, senior partner of Lawrence-Leiter & Co., Kansas City management consultants, will conduct a seminar on "Selling Means Service" at the Iowa College-Feed Industry Conference (Iowa Nutrition Conference) to be held Sept. 11-12 at Iowa State College. Mr. Lawrence will conclude the second day's session, which will be programmed especially for feed salesmen and dealers. Mr. Lawrence engaged in training and personnel work for several large corporations before entering the consulting field in 1950.

The No. 1 Law of Ruminant Nutrition

As converters of roughage into the protein of meat and milk, cattle and sheep have no equals. Scientists, studying these ruminant animals, found the secret of their success in the rumen or first stomach. In this huge fermentation vat, bacteria, protozoa and other small organisms digest the roughage and other feeds to build their own bodies. In this fermentation process they also synthesize certain vitamins and other nutrients essential to good animal health and production. The livestock in turn digest these millions of micro-organisms and their products to make meat and milk economically.

This knowledge has led to two major developments in cattle and sheep feeding. One is the use of urea nitrogen to serve as a source of protein. The other is the use of larger amounts of coarse roughage, which is digested faster and more completely by the rumen micro-organisms getting the quick PROCADIAN® Urea source of protein in a balanced concentrate.

The importance of this rumen fermentation process led to the saying "Feed the rumen 'bugs' to feed your livestock." This advance in ruminant nutrition features urea nitrogen as a source of protein. It also requires that feed supplements include a careful balance of energy, minerals, vitamins and other nutrients needed by the micro-organisms as well as by the animals themselves.

The high concentration of PROCADIAN Urea as a source of protein leaves room in the feed bag for these other essential ingredients. When you formulate feeds with PROCADIAN Urea, it makes possible an excellent balance of nutrients to help the rumen "bugs" work better and faster.

PROCADIAN Urea is a pure, free-flowing product that is ideal for feed formulation. It is supported by a powerful, educational advertising campaign that tells your customers to "look for urea on the tag" in buying feed. It pays to let your customers know that you are using PROCADIAN Urea in your feeds.

NITROGEN DIVISION
40 Rector St., New York 6, N.Y.
Allied Chemical

Branch offices in leading farming areas.

PROCADIAN® UREA FEED MIXTURE

the quick source of protein in mixed feeds

Fleischmann's F·I·D·Y
IRRADIATED DRY YEAST
RICH IN VITAMIN D FOR FOUR-FOOTED ANIMALS

HONEGGER DEALERS PROFIT from the BIG FRANCHISE

BIG 4

Franchises available in some areas

WRITE, WIRE or PHONE

Honeggers' & Co., Inc.
Fairbury, Illinois

FEED
CHIX
FARM BUILDINGS
EQUIPMENT

Use Feedstuffs WANT ADS for RESULTS

Why THE BIG SWING TO Trithiadol

TRADEMARK

Sterwin's SUPERIOR, NEW COCCIDIOSTAT?

Because *ONLY* Trithiadol does *BOTH!*

1. Trithiadol effectively controls ALL commercially important species of coccidia.

Trithiadol's superior effectiveness has been proved in commercial use (where it counts most), as well as in extensive laboratory and field tests.

2. Trithiadol gives top feed conversion.

Impartial controlled testing against 4 leading coccidiostats showed that Trithiadol gave as much as $40 EXTRA PROFIT per 1000 birds. Tests were run by 21 leading feed manufacturers over a period of 15 months.

JOIN THE BIG SWING TO TRITHIADOL TO . . .
Effectively control coccidiosis in your flocks... Get top feed conversion . . . **EXTRA PROFITS.**

Only TRITHIADOL has all these major advantages

1. Effectively controls all economically important species of coccidia.
2. Completely safe for poultry; harmless to other warm blooded animals.
3. Superior feed conversion and weight gain.
4. Permits immunity to develop early.
5. Displays no adverse effects on egg production, shell or interior quality.
6. Comparatively no effect on hatchability or fertility.
7. Is compatible with all commonly used feed ingredients.
8. Stable, free flowing, easily blended with feeds.

See your Sterwin Technically Trained Representative or write, wire or phone collect for facts and figures on Trithiadol.

STOCKS AVAILABLE FOR IMMEDIATE DELIVERY.

Sterwin Chemicals INC.
Subsidiary of Sterling Drug Inc.
1450 Broadway, New York 18, N. Y.
LAckawanna 4-6400

North Carolina Board Rejects Proposal to Permit Tenderizer Use

RALEIGH, N.C.—A proposal to permit the use of tenderizing chemicals on meats processed within the state of North Carolina was rejected recently by the North Carolina State Board of Agriculture.

The proposal had been advanced by Richard Colier, representative for the Tender-Rise Co. of America, who described the tenderizer to the board and drank some of it to demonstrate that it was not damaging to humans.

L. Y. Ballentine, agriculture commissioner for the state of North Carolina, noted that the U.S. Department of Agriculture allows tenderizing chemicals to be used only on frozen meats.

Quinton Gregory, chairman of the board of the North Carolina Frozen Food Locker Assn., Inc., wired the board that his organization "strongly" recommended approval of the use of tenderizers. However, a study committee named by the board said that the use of tenderizers on poor grades of meat "can result in obscuring the grade. It can also result in cutting out the better grades of meat. . . . Eating experiments carried out by a number of people bring out the fact that steaks which are overtreated with tenderizers suffer severe loss in flavor and taste, or in other words, taste like sawdust."

Tenderizer components were described by the committee as coming from fruits and plants. The committee said "their active elements are proteolytic (protein digestion) enzymes—vegetable pepsins as compared to animal pepsin. Examples of the products and sources are papain (from papaya melon and plant); bromelin (from pineapples); ficin (from figs); and the protease from Aspergillus oryzea—a species of mold. They tenderize by digesting certain of the tissues of which meat is composed."

GMI Stockholders Told Of Expansion Plans

MINNEAPOLIS — Stockholders of General Mills, Inc., held their annual meeting Aug. 19 in the company's new headquarters building and heard reports of planning designed to expand company operations further within the next few years.

Harry A. Bullis, chairman of the board, and Charles H. Bell, president, reviewed briefly the company's fiscal year ended May 31, 1958. Mr. Bell pointed out that the return on beginning stockholders' equity was 10.8% this year, as compared to 9.3% last year.

"In spite of this good record, it is important to keep in mind that the return on our sales volume is still very small — only 2.8¢ per dollar — which in the years ahead certainly leaves room for improvement," Mr. Bell said.

"As consumer demands increase and production facilities are used more fully, business will find it necessary to increase its investment in plant and equipment," Mr. Bullis said. When this begins to happen, perhaps by next spring or summer, recovery will be general and the economy will move forward vigorously, he predicted.

The growth expected in the dynamic U.S. economy and in population and family formation plus the homemaker's desire for better, more convenient foods will boost the nation's food bill by about $25 billion by 1965, Mr. Bullis predicted.

To insure its share of this new market, GMI has increased its research budget for 1958-59, he said.

Last year GMI spent $15,858,000 for plants and equipment. Company requirements for fixed facilities and working capital were financed by $6,737,000 of reinvested earnings, $6,300,000 depreciation charges and $10,000,000 borrowed from Prudential Insurance Co. Another $10,000,000 will be borrowed from Prudential next spring, under terms of a loan agreement negotiated on March 1, 1957.

"Considering the pessimism which prevailed in many areas after business activity receded from the high point reached in the third quarter of 1957, the American economy has performed remarkably well," Mr. Bullis said. "There were many predictions that the recession would be substantial and that it might turn into a real depression. Now it appears that the business contraction reached bottom in April or May, 1958."

Ruminant Liquid Feed Progress Report Given

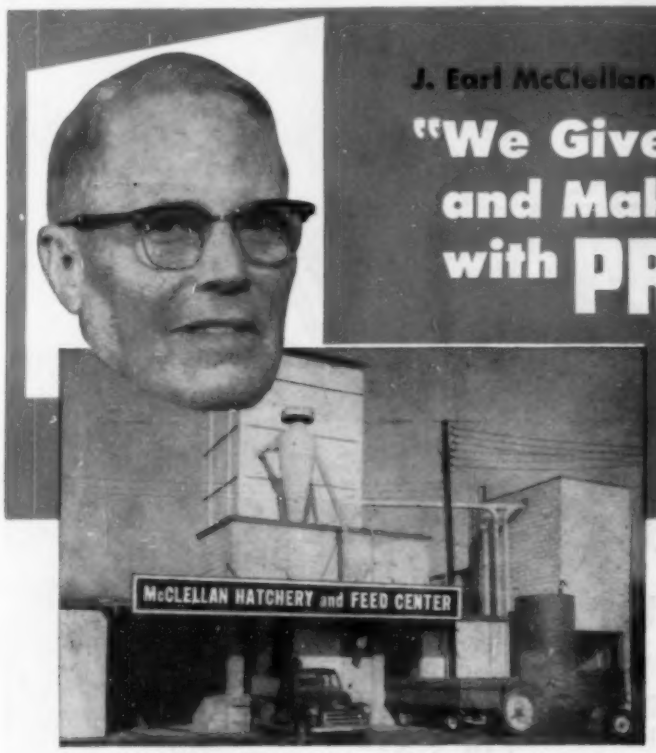
CASTLETON-ON-THE-HUDSON — A progress report on the liquid feeding of ruminants was given at Elmbrook Farm near here recently by Dr. H. J. Prebluda, manager, special product sales, U.S. Industrial Chemicals Co., New York. He was speaking at the Hudson Valley Hereford Field Day.

"Liquid feeding will rapidly play an all-important role in this new era of agribusiness and chemicalization of agriculture," he said. "The introduction of new Morea® liquid feeds will substantially strengthen the dairy and livestock-feeding industries of New York State and surrounding areas."

The Hereford Field Day program was sponsored by the Hudson Valley Hereford Assn. in cooperation with the New York State College of Agriculture. Franklin D. Roosevelt, Jr., was program chairman.

J. Earl McClellan of Xenia, Ohio, says:

"We Give Better Service and Make More Money with PRATER"



View of McClellan Hatchery and Feed Center, at Xenia, Ohio. Mr. J. Earl McClellan, Owner and Manager.

"... in our new plant, we installed the following PRATER Blue Streak Equipment: 5ACP Mill, two 2-ton Twin Spiral Mixers, Double Chain Drag Feeders, 3D Cob Crusher and Blower, Screw Conveyor and Truck Hoist.

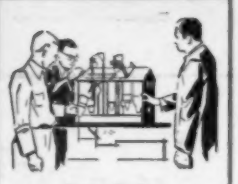
"Prior to the operation of the new plant, our estimated annual Grinding income was $5,250.00; with our new Granular Grind story, 1956 grinding income reached $17,893.10. In addition, due to our increased service accommodations, our sales volume on profit-making concentrates showed a proportionate rise."

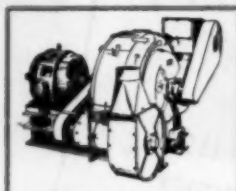
You, too, will find it pays to automate your mill with PRATER. Custom engineered for efficiency and profit, Blue Streak equipment is an investment in steady, daily dividends.

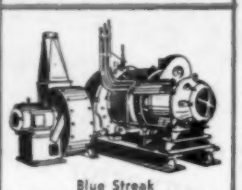
Actual mill surveys *prove* the PRATER Profit Story! We want to send you the facts and figures. Write today.

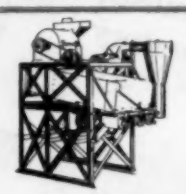
PRATER PULVERIZER COMPANY

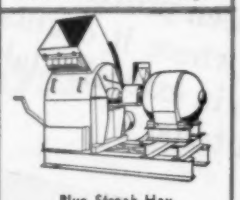
1537 S. 55th Court • Chicago 50, Illinois


Prater Design and Engineering Service

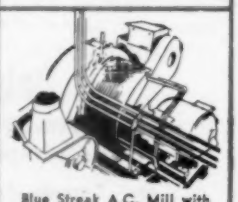

Blue Streak Advance Custom Mill


Blue Streak Dual-Power A.C. Mill with Pratermatic Screen Changer


Blue Streak Corn Cutter

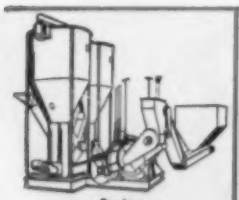

Blue Streak Hay and Grain Grinder

Blue Streak Double Chain Drag Feeder

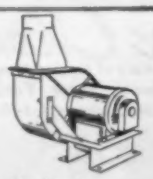

Blue Streak A.C. Mill with Pratermatic Screen Changer

Blue Streak Vertical and Horizontal Screw Conveyors

Blue Streak Twin Spiral Mixer


Prater Automatic Package Plant

Prater Fibre Grinder for Commercial Mills


Blue Streak Grain and Attrition Mill Blower

BLUE STREAK Prater

ROLLED OATS

GROUND OAT GROATS
FEEDING OATMEAL FLOUR
PULVERIZED WHITE OATS
PULVERIZED FEED OATS
HY-QUALITY OATMILL FEED
REGROUND OAT FEED
COARSE GROUND OATS

WERTZ FEED PRODUCTS
SIOUX CITY, IOWA
Phone 20545

Calcium Carbonate of Constant High Purity

Calcium Carbonate Company
520 South 4th St., Quincy, Illinois
Box 409, Carthage, Missouri
325 W.O.W. Bldg., Omaha, Nebraska

NEW FEED SUPPLEMENT CUTS BROILER COSTS

Borden's Fermacto 400 Sets Records In Feeding Trials

New York, N. Y.—The Feed Supplements Department of The Borden Company has just published the most recent test work on FERMACTO 400, its special blend of fermentation factors which was introduced to the feed industry some time ago. These data, gathered from professional broiler farms and from the company's own test farms at Elgin, Illinois, gave further proof of the product's superiority, the company states.

Original work had centered around the ability of FERMACTO 400 to produce more poultry meat on less feed. However, in the work just reported, the objective was to determine meat production costs. That is, to find out whether the finished bird could be produced for less money, as well as on less feed.

The test data from this latest work give dramatic proof of the fact that it not only takes less feed to produce a broiler on the FERMACTO 400 program, but that the cost of the feed is not increased by adding FERMACTO 400 to the formula.

Fish products have long been recognized as an excellent source of the unidentified growth factors, but because of the high cost of fish products, the tests were run to determine the optimum levels of FERMACTO 400 and whey factor needed to promote the cheapest gains.

Of all feeding tests run, the most economical results were obtained from a ration which contained 50 pounds of fish and 25 pounds of Borden's MG 2X-400 (which supplies 10 pounds of FERMACTO 400 and whey factor activity in excess of 25 pounds of dried whey).

In one test, three pens of birds were fed as shown below:

INGREDIENT COST PER POUND OF GAIN

Product tested: Borden's FERMACTO 400.

Test No. B-4581-F.

Pen No.		Ingredient Cost/Lb. Gain East Coast
1.	Commercial Feed (With fat)	10.02¢ (8.06¢**)
2.	Commercial Concentrate (No fat) mixed with corn*	9.80¢
3.	Basal with 2.5% fish and 1.25% MG 2X-400	7.91¢

*Two concentrates, starter and finisher, were used. The starter concentrate was mixed with corn 8 to 12, and the finisher concentrate 7 to 13.

**Twenty dollars per ton was deducted from the selling price to allow for mixing, bagging and mark-up.

From the above terminal report, which is typical of the many tests run, it can readily be seen that Borden's FERMACTO 400 offers the feed manufacturer a very obvious solution to the problem of how to manufacture top-result feeds which will produce broilers at less cost.

For complete product information and test data, feed manufacturers are invited to write to The Borden Company, Feed Supplements Department, 350 Madison Avenue, New York 17, New York.

Eshelman Plant Boosts Capacity, Efficiency and Accuracy With New Automatic Feed Mixing Unit

By PAUL L. DITTEMORE
Feedstuffs Staff

An increase in maufacturing efficiency, capacity and accuracy—those are the results which John W. Eshelman & Sons reports for the new automatic feed mixing facilities at its plant in York, Pa.

The new facilities are in a new five-story building completed earlier this year. The plant addition contains bulk storage bins and a fully automatic unit for batch mixing a complete range of animal and poultry feeds at a rate of 30 tons per hour.

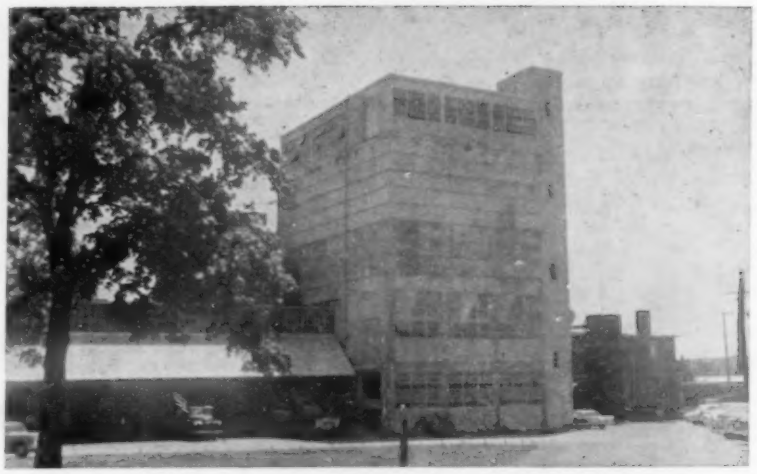
The new unit is operationally tied into the old plant, where feed goes through other processes such as pelleting, packing in bags or storage for shipment in bag or bulk.

One man at the control center operates the system, which provides for the proportioning and mixing of 10 three-ton batches per hour. The proper choice of more than 40 ingredients is regulated by this operator to determine each separate formula.

The new addition was designed and constructed by Robert E. Lamb, Inc., Philadelphia. The control system was designed in conjunction with the Howe Scale Co., which also provided the scale equipment.

Mixing equipment was provided by S. Howes, Inc., bin bottoms and dust control system by The Day Co., and ingredient screw feeders by Ft. Worth Steel & Machinery Co.

In addition to the new facilities at York, the Eshelman company also opened a new mill in Chamblee, Ga., fairly recently. The company's headquarters mill is in Lancaster, Pa., and other plants are operated in Circleville, Ohio; Tampa, Fla., and Sanford, N.C.



This is the new addition to the York, Pa., feed plant of John W. Eshelman & Sons. The reinforced concrete structure contains bulk storage bins and an automatic unit for batch mixing at a rate of 30 tons per hour.

New Building

The new mill building, of reinforced concrete construction, is 94 ft. high, 74 ft. long and 44 ft. wide. This building, with 25 bulk ingredient bins plus 13 small usage ingredient bins, provides added storage capacity of 52,000 bu. With storage of 60,000 bu. in the old building, the complete plant now has a capacity of more than 100,000 bu.

The ingredient storage bins have reinforced concrete walls with steel bottoms. The 25 bulk bins range in capacity from 500 bu. to 4,000 bu. There also are 13 bag dump hoppers with capacities of 40 to 200 bu.

More than 7,000 ft. of conduit and 40,000 ft. of wire are used to power the electrical system for the maze of conveyors, elevators, dust exhausters, mixer controls and the electronic control panel.

Controls

The control panel, of course, is the heart of the system. This "Batchmaster" control consists of a 16 ft. console with three scale dials and auxiliary controls mounted on an integral vertical panel.

After dials are set, the panel, through its integral, interlocked system, charges the scales, empties scales to mixer, mixes and discharges feed to bins.

The new facilities include 450 linear ft. of charging conveyors (12-inch) on top of the bins, and 550 linear ft. of ingredient feeders (size 6 to 16 in.) beneath the bins.

There are two scale hoppers of 5,000 lb. capacity and one of 1,000 lb. capacity. The batch mixer is a 3-ton unit. Micro-ingredients go into the mixer through the premix hopper.

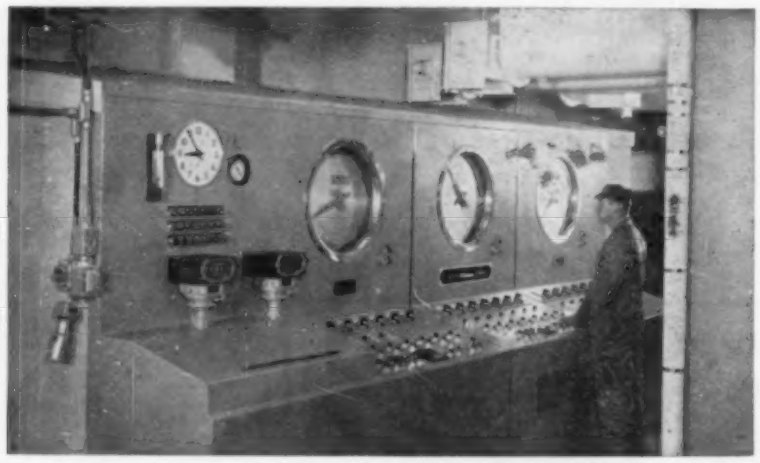
The discharge elevator is 101 ft. high, with a capacity of 40 tons per hour. Other equipment in the new mill building includes the dust exhausters—two fans with 3,000 cu. ft. per minute capacity each, discharging to high-efficiency separators on the roof.

It is noted that the electronic system is housed in a pressurized, dustproof room. The control panel forms one wall of a room which is pressurized with filtered fresh air at .5 in. W.G. to keep electrical components on the back of the panel in a safe, dust-free atmosphere. The room also contains the motor control center and electric control valves. If the pressure falls below .2 in. W.G., power is cut off to all automatic controls.

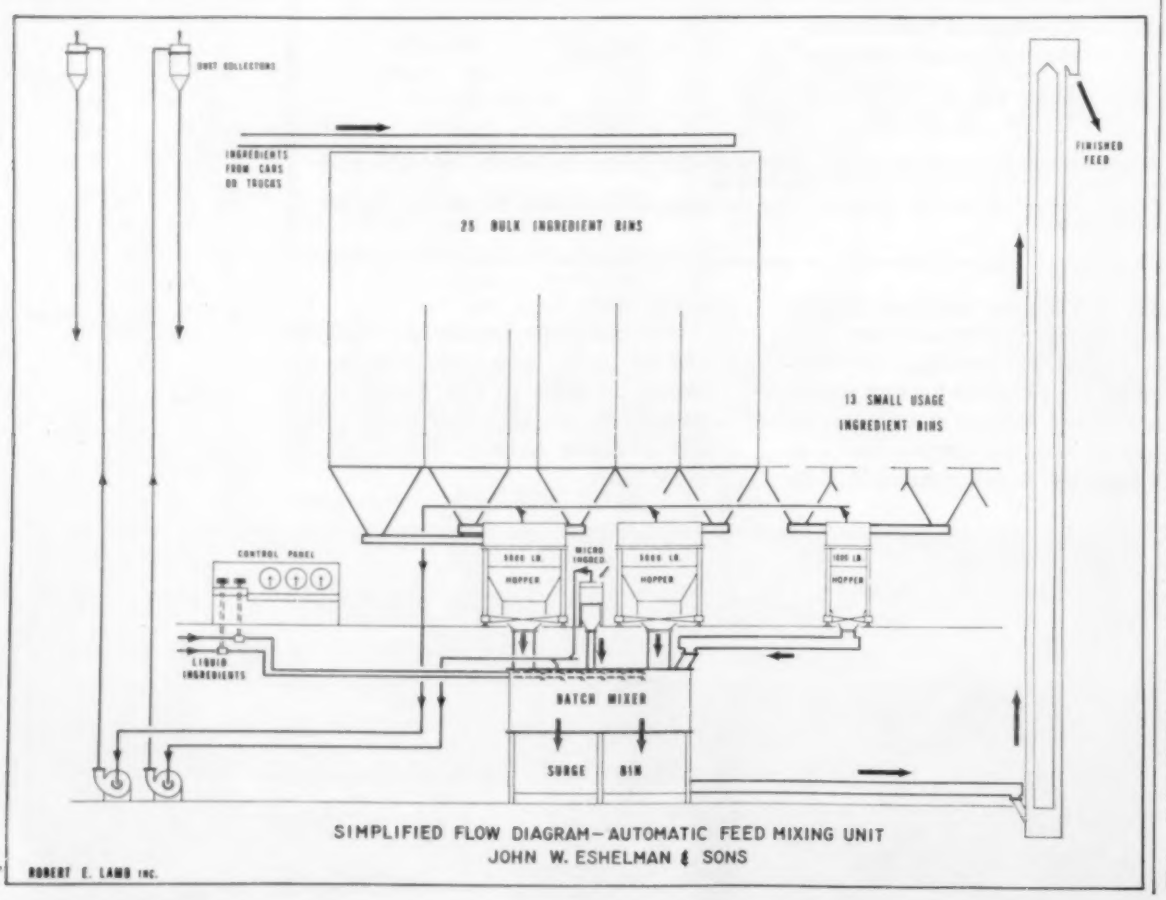
Color-Coded

A feature of the interior of the building is that it is color-coded so that each operation may be easily traced and identified. Bins and conveyors are painted white, motors and moving parts are orange, mixing equipment is beige, and the walls are a contrasting yellow.

George Meanor is manager of the



The heart of the new operation is this control panel, consisting of a 16 ft. console with three scale dials and auxiliary controls mounted on an integral vertical panel. The dials indicate the cumulative weight of ingredients in each of three weigh hoppers. The meters on the left show flow of liquid ingredients.



SIMPLIFIED FLOW DIAGRAM—AUTOMATIC FEED MIXING UNIT
JOHN W. ESHELMAN & SONS

Vermont Feed Men Outline Program For Convention

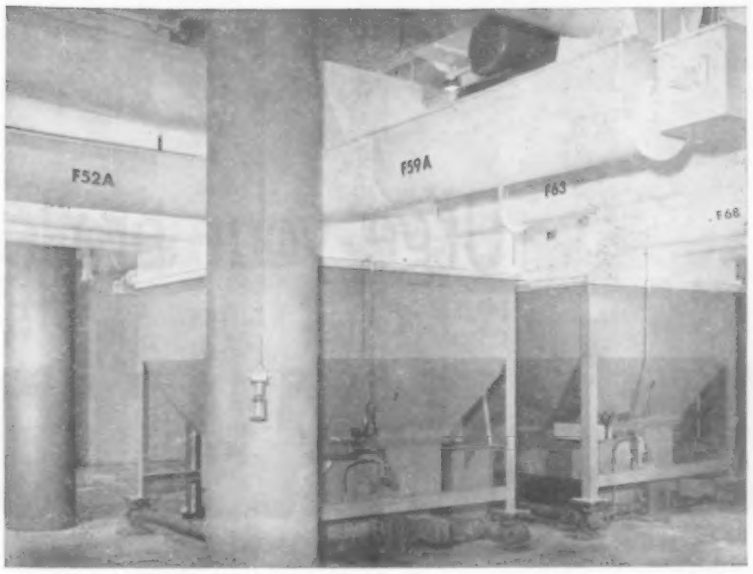
BURLINGTON, VT.—Vitamin A in dairy feeds, corn production in modern rations and the feed situation for the coming year will all be discussed at the annual convention of the Vermont Feed Dealers & Manufacturers Assn. to be held here Oct. 9.

The meeting will be held at the Agricultural Science Building on the University of Vermont Campus.

The program for the meeting was announced recently. Speaking on corn production in modern rations will be Henry M. Mays, vice president, Corn Products Sales Co., New York. Dr. R. M. Bethke, vice president, Ralston Purina Co., St. Louis, will discuss vitamin A in dairy feeds and W. T. Diamond, secretary of the American Feed Manufacturers Assn., Chicago, will talk on the feed situation for the coming year.

What's new in research at the University of Vermont will be discussed by a panel of university staff members. Dr. Thomas W. Dowe, director of the Vermont Agricultural Experiment Station, will be moderator. The panel discussion will be followed by questions and discussion.

Also scheduled for the meeting are the annual business meeting and the banquet in the evening.



Seen in this picture are the two 5,000-lb. scale hoppers, with ingredient feeders overhead. There are numbers on the feeders corresponding to supply bins. Also, it may be noted that the interior of the mill is color-coded so that each operation may be easily traced and identified. Bins and conveyors, for example, are painted white, and mixing equipment is beige.

Eshelman plant in York. The project engineer for the Lamb company, industrial engineering and constructing firm, was Robert E. Kauffman.

It is pointed out that the completed system stepped up production efficiency significantly. In this connection, officials note that the one man in the control room can change easily and quickly from one formula to another when that is necessary.

Capacity has been increased sharply through the faster, automatic production and the bigger storage space.

Eshelman spokesmen also note that "quality control and a unique premixing system will insure uniformity of all finished feeds."

Accuracy of the system, it was pointed out, is controlled very closely, to a fraction of a per cent on the batch weight.

Another view of ingredient feeders, weigh hoppers and other facilities in the new automatic feed mixing operation of John W. Eshelman & Sons at York, Pa.

Chicken of Tomorrow 4-H Winners Named

MERRIMACK, N.H. — Five 10-week cockerels averaging 5½ lb. each won the 4-H Chicken of Tomorrow contest held here recently. The winner was Ann Talbot, 10, Laconia, N.H.

The five cockerels, selected from 25 straight run chicks supplied 10 weeks earlier from Hubbard Farms, Inc., Walpole, N.H., were rated best in quality as well as weight. Total live weight of the entry was 27½ lb.

Wirthmore Feeds, Inc., Boston, provided the trophy awarded as first prize. The first place entry was sold for $1 lb. to Nashua Beef Co. which purchased all entries.

Winning second place was a broiler cross from Nichols, Inc., Exeter, N.H., weighing 26½ lb. James Benware, Meridan, N.H., submitted the entry. The third place winner, from Nedler Farms, Peterboro, N.H., and submitted by Gregory Geisler, Derry, N.H., weighed 21.4 lb.

Feeding Booklet Issued

BERKELEY, CAL.—A new publication prepared as an aid to livestock growers has been issued by the division of agricultural sciences of the University of California. Entitled "Supplemental Feeding of Beef Cattle on the Range," the booklet has been prepared by Walter N. Johnson and Horace T. Strong. It is available by writing to the University of California, College of Agriculture, Room 22, Giannini Hall, Berkeley, Cal. It is issued as Leaflet 11 (revised).

you'll be days and dollars ahead

Schutte

HAMMER MILL REPLACEMENT PARTS

Don't let worn or defective hammers, screens and other vital hammer mill parts stretch out milling time, lower the quality of your grind, and eat up your profits. Replace with dependable Schutte Hammer Mill Parts.

YOU'LL LENGTHEN THE LIFE OF YOUR MILL, because Schutte parts are rugged and durable. For example, the Patented Adjustable Hammers, with 10 working surfaces, are of special hardened steel for long cutting life. Schutte Screens are made from heavy, abrasion resistant steel. Fans are extra-heavy, all-welded steel to insure peak capacity with minimum use of power.

YOU'LL SHORTEN DOWNTIME! Schutte replacement parts are quickly available. Most of them can be shipped from stock the same day orders are received.

YOU'LL HAVE A DEPENDABLE SOURCE! Long a parts specialist, Schutte has also a reputation for building the best mills in the business . . . *since 1930*. Get full details by requesting Parts Bulletin 854 today.

SCHUTTE PULVERIZER COMPANY, INC.

878 BAILEY AVE., BUFFALO 6, N. Y.

Schutte Hammer Mills, Feed Mixers, Molasses Blenders, Crusher Feeders, Baggers, Dust Collectors, Portable Bulk Scales, Replacement Parts.

CARGILL

Cargill CREATIVE PROCESSING

CREATIVE PROCESSORS OF FARM PRODUCTS

K*

Water soluble

Rapidly absorbed

Fast, effective protection against hemorrhagic disease

Economical

Completely stable potency

*U.S. Patents 2,331,808 & 2,367,302

Dept. FS-830
Please rush complete information on Hetrogen K and latest reports on Vitamin K research.
Firm Name
Individual
Address

Hetrogen K is available as an easy to use premix and as a free flowing concentrate. Recommended for medication of drinking water. For complete information, write or call collect:

HETEROCHEMICAL CORPORATION, 111 E. Hawthorne Avenue, Valley Stream, Long Island, N. Y. · LOcust 1-8225

CYANAMID

Urge your broiler

"Start now to

ANIMAL FEED DEPARTMENT • AGRICULTURAL DIVISION

growers to

reduce throw-outs!"

INSPECTED FOR WHOLESOMENESS U.S. DEPARTMENT OF AGRICULTURE P-00

Winning this mark after January 1, 1959 will be a major concern of processors, broiler growers and – yes – feed manufacturers.

All will profit if every possible step is taken to minimize "throw-outs." This means, in addition to good sanitation, safeguarding health of broilers from the day they're hatched until they're marketed.

When your broiler feeds contain AUREOMYCIN® Chlortetracycline you have a potent weapon to protect your broiler growers and to safeguard processors.

Your good feeds, plus AUREOMYCIN, provide "health insurance" for two costly diseases: chronic respiratory disease and synovitis. These two diseases are the cause for lesions in the air sac, joints and breasts which result in the vast majority of market condemnations.

Research efforts, on the part of Cyanamid and of poultry pathologists across the country, have revealed that CRD and synovitis must be controlled by a *continuous, day-to-day program* to minimize lesions.

Continuous feeding of your good broiler feeds with high levels of AUREOMYCIN is your growers' best assurance of suppressing CRD and preventing synovitis.

Be sure your broiler feeds contain AUREOMYCIN. Urge your growers to give this feed the *first* day and *every* day! Urge them to "start *now* to reduce throw-outs!"

YOUR BRAND
Broiler
Feed
with
Aureomycin

AMERICAN CYANAMID COMPANY • NEW YORK 20, N. Y.

Feed Service Bulletin Board

Helpful Notes on Feeding and Management for Feed Men and Their Customers

Lower Cooling Costs

Good feeding practices are important to efficient milk production, but good milk house ventilation figures in too. It can cut milk cooling costs during the summer, says a Purdue University agricultural engineer, G. W. Isaacs.

Milk cooling costs always increase in summer, but they climb even more where proper ventilation isn't provided, he explains. The main purpose of ventilation in summer, of course, is to carry off heat taken from milk in the cooling process. This can be done in several ways, including opening doors and windows and equipping them with screens or by using electric fans.

Electric fans have some advantages over other systems. They give positive control, either manually or with thermostats or humidistats. Fans should be large enough, says the engineer, to change the air in the milk house once a minute.

This means that for a room 14 ft. square with an 8-ft. ceiling, the fan should have a capacity of about 1,600 cfm. This would require a fan with a 16 to 20-in. blade.

◆

Watch Washing Rules

Washing eggs is 2½ times faster than dry cleaning them, according to S. F. Ridlen, University of Illinois extension poultry specialist. But immersion can be costly if the producer fails to follow accepted washing rules.

Mr. Ridlen says eggs should be washed in an accepted detergent-sanitizer as soon as possible after gathering. Water alone or water with detergent is not recommended. A good detergent-sanitizer should be odorless, colorless and tasteless.

Eggs should be immersed from three to five minutes. The most desirable washing temperature is 110° to 120°, or slightly higher than egg temperature. Colder water causes egg contents to shrink and draw bacteria into the shell. Immersion time should be controlled with a timing device.

The washing solution must be changed after every six or seven baskets since microorganism concentration builds up with each washing. Producers should start each day with a fresh solution. Detergent-sanitizer solutions lose power if held several hours after use.

Mr. Ridlen says eggs should not be rinsed after immersion. Allowing the sanitizer to dry on the eggs helps seal shell pores and protects eggs against possible later contamination from handling, sweating, storage and exposure to molds.

If a scum or foam is left on eggs when they are removed from the washer, they can be dipped in a second container with the same strength of cleaning solution. A fan directed on the eggs will dry and cool them quickly.

A fresh, clean detergent-sanitizer solution will not compensate for dirty equipment. The washer and other handling equipment should be scrubbed with a fresh sanitizer solution daily or after each use.

The specialist says producers who cannot follow these washing rules should not attempt to wash eggs. Improper washing hurts the producer and the poultry industry.

◆

Beef Herd Performance

The only sure way to spot poor producers in a beef herd is through a performance testing program. Recent studies of over 5,000 calves in 68 beef herds have indicated the top one sixth of the cows had calves weighing 135 lb. more at weaning than the bottom one sixth, according to G. R. Carlisle, University of Illinois livestock extension specialist.

He says a performance testing program will enable the beef producer to spot poor producers in his herd.

Under such a program records are kept on the birth date and the weight of each calf at weaning time. If calf records indicate a cow is not a good producer she can be removed from the herd.

◆

Early Production Important

The faster poultrymen can get their new flocks into peak production this year, the higher net return they stand to make.

Dr. William H. Dankers, extension marketing specialist at the University of Minnesota, points out that egg prices may decline rather sharply in the latter part of the year or the early part of next year. Prices in a year like this are best in the early part of the laying season, he adds.

Figures from the state-federal crop

COLUMBIA
SOFT PHOSPHATE
IMMEDIATE DELIVERY
LOW COST
WRITE FOR INFORMATION
Columbia Phosphate Co.
COLUMBIA PHOSPHATE CO. PHOSPHATE PRODUCTS

DISTRIBUTED BY THE FOX COMPANY
FOXCO
QUALADEE
A and D
VITAMIN OIL
NEWFIELD NEW JERSEY
"PRODUCTS OF PROGRESS"

WARF

anticoagulant rodenticide developed by

MOST PROFITABLE FOR YOU!
WARFARIN has been cleanly merchandised and priced to permit fair profits for bait manufacturers, wholesalers and retailers. Display WARFARIN stock in time to coincide with this National Rodent Control Advertising Program . . . you will be amazed how sales and profits boom!

MOST EFFECTIVE RODENTICIDE!
WARFARIN causes internal bleeding in rodents . . . and *certain death!* It has no odor or taste so rats and mice never suspect it, never develop bait shyness, never build tolerances. So WARFARIN baits are sure-fire.

POTENT PROMOTION!
WARFARIN has been advertised consistently to farm markets for years. More than five-and-one-half million dollars have been invested to tell farmers that WARFARIN is the safest and surest way to rid their farms of rats. This fall, increased advertising in farm papers with 54 million readers will stimulate greater consumer demand.

SAFEST RODENTICIDE KNOWN!
No danger to children, pets or livestock when used as directed.

WISCONSIN ALUMNI RESEARCH FOUNDATION

REMEMBER: this fall . . . WARFARIN will be

and livestock reporting services show that 10% more young chickens were raised on farms this year than in 1957.

This situation, according to Dr. Dankers, shows clearly the value of getting chicks as early as possible in the season. Producers who bought chicks early can take advantage of good prices before the decline occurs.

The egg price outlook also makes it inadvisable to keep old hens for another whole year, Dr. Dankers says. Old hens don't produce as efficiently as young ones and may actually lose money when prices have declined. However, the yearling hens will probably be very good property until the price decline begins.

The marketing specialist attributes the increase in chicken numbers to higher egg prices in early 1958, coupled with lower feed prices. Egg prices during the first six months were more than 20% above 1957, while feed prices averaged 3% lower than during the previous year.

Hormone Implants, Oral Doses Tested

LEXINGTON, KY.—Recent feeding tests at the Kentucky Agricultural Experiment Station indicate the use of pellet implants is "slightly better" than oral doses or synthetic hormones to stimulate gains in beef steers, the station says.

In these tests, the 24-mg. pellet was better than oral administration, Prof. A. R. Parsons, beef cattle specialist, said after the feeding test. He added that Terramycin would give a small increase also when used in the feed. He said the implant would be considerably cheaper, about 6¢ per pellet, compared to oral additions in feed which might cost $1.20 per steer per feeding period.

Prof. Parsons took 40 yearling Hereford steers and fed them shelled corn, mixed hay and an economy supplement for the 195-day test. He varied the hormone doses among the groups, and in one group gave 80 mg. of Terramycin in their daily feed.

Group 1, getting the basal ration only, with no hormone or antibiotic, averaged 2.19 lb. daily gain and brought $22.88 cwt. when sold.

Group 2, fed the basal ration plus 10 mg. of the hormone in the feed daily, averaged 2.27 lb. daily gain and sold for $22.42 cwt.

Group 3, receiving the basal ration with a 24-mg. pellet hormone implant, averaged 2.35 lb. daily gain and brought $22.48 cwt.

Group 4, fed the basal ration plus 10 mg. of the hormone and 80 mg. of Terramycin in the feed, averaged 2.42 lb. daily gain and sold for $22.43 cwt.

The basal ration consisted of shelled corn and mixed hay, plus an "economy supplement" containing corn cob meal, molasses, dicalcium phosphate, urea, limestone, salt, trace mineral premix and a vitamin A premix.

Coastal Bermuda Pelleting Studied

CLEMSON, S.C.—A pilot plant operation for the production of Coastal Bermuda grass pellets is under way here in a development that "may provide a new answer to lower livestock and poultry feed costs in the South," according to Dr. M. D. Farrar, dean of agriculture at Clemson Agricultural College.

"If tests with Coastal Bermuda pellets prove it to be (the answer to lower cost feeding)," he said, "it has the possibility of becoming just as important a livestock feed in the Southeast as alfalfa hay is in the Midwest."

While no experiments with the pellets have been conducted in South Carolina to date, the idea "looks so promising" that the project was given the green light and a pilot plant operation was started under the direction of Dr. O. B. Garrison, head of the South Carolina Experiment Station.

It was pointed out that pelleted roughage transforms hay into a free-flowing, easily-handled form like grain and that early research has indicated that pellet-fed animals have a higher rate of gain than animals fed on hay.

Gestation Supplements Increase Litter Size In Kentucky Trial

LEXINGTON, KY. — Supplements to a gestation ration fed gilts at the University of Kentucky Agricultural Experiment Station resulted in increased litters in a recent trial reported by Dr. C. E. Barnhart, swine specialist at the university.

Supplements used included 15% dehydrated alfalfa meal, dried corn distillers solubles and B-vitamin complex. Diethylstilbestrol was also used, but "it seemed to reduce the number of pigs per litter," Dr. Barnhart said.

In the test, 20 Hampshire gilts were penned individually on concrete floors and hand-fed their respective rations for the entire gestation period.

Results showed that the alfalfa meal group averaged 9.25 pigs per litter, and none were stillborn. The dried corn distillers' solubles group averaged the same number per litter, but averaged 0.75 stillborn pig per litter.

Gilts in the B-vitamin group also averaged nine pigs per litter, and had 0.50 stillborn. The stilbestrol group averaged only seven pigs per litter, and had 0.24 stillborn.

Gilts in the control group, while they had an average of nine pigs in each litter, had 2.33 stillborn per litter.

Average birthweights on all lots ran from 2.39 lb. for the control lot to 2.76 for the stilbestrol lot.

5½ million dollar promotion
makes it the
WORLD'S BEST SELLING RODENTICIDE!

A R I N !

Wisconsin Alumni Research Foundation

STOCK WARFARIN BAITS NOW!

Now is the time for you to prepare:

1. Check your stock right away. Make sure you have an ample supply of WARFARIN baits.
2. Order from your regular supplier additional stocks of WARFARIN baits now.
3. Plan your displays . . . order whatever point-of-sale materials you need! Tell your salespeople what WARFARIN means, encourage them to talk about WARFARIN to your customers.

Cooperate With Our Rodent Control Program

During the fall and winter months we will concentrate on a national *rid-your-farm-of-rats* campaign. Farm papers will run special editorials. Drug, feed, hardware and farm supply stores are being urged to cooperate with local displays.

advertised to 54 million readers of farm magazines!

More profit on feed when you mix your own brand!

BROWER Whirlwind FEED MIXER

Earn up to $1.50 profit per bag by mixing your own brand of feed with the BROWER MIXER . . . the extra profits soon pay for it! WHIRLS the ingredients instead of just tumbling them . . . mixes a perfect blend in about 10 minutes . . . fast, economical! Built for years of trouble-free service. Five sizes. World's Largest Selling Mixer!

BROWER MFG. CO., 566 N. Third St., Quincy, Ill.

Write for FREE CATALOG

Program of Customer Service Wins Volume for Ohio Dealer

By Al P. Nelson
Feedstuffs Special Writer

"We believe it pays to let the farmer know we haven't forgotten him after we've made the sale."

This comment by Ed Frazier, manager of the New Holland (Ohio) Grain Co., aptly defines the basic policy of his firm. The customer is remembered by visits, direct mail and a grain bank plan that brings farmer and feed dealer into contact frequently.

"In order to do business with the farmer today," Mr. Frazier said, "you've got to look at his individual problems and help him work out his feeding operation on a profitable basis. We spend as much time with every customer as it takes to know that we've got him started right on the feeding program we sell him. Then we go back to check with him time and again to make certain we are there when he needs us."

Visiting with the farmer at the farm provides an excellent way to get first-hand information about the individual feeder's problems, he said.

Mr. Frazier has also turned an unrelated interest to use for the firm. An airplane owner, he often flies a farmer over his own farm in crop inspections that also provide a good opportunity for promotion of sales.

Grain Bank Plan

The grain bank plan is also operated in a way that serves the farmer as well as the dealer. Mr. Frazier accepts a farmer's corn for storage on a basis by which he grades it all No. 2 corn and furnishes the farmer with a statement to this effect. Then, when the farmer wants corn ground and mixed in his feed, he gets the equivalent of his share of storage at a storage cost of 1½¢ bu. per month.

"The farmers like this plan and are satisfied with it," Mr. Frazier states. "We have 16,000-bu. storage capacity, and the fact that we use the grain bank plan enables us to serve our customers better. Most of them give us just about 100% of their grinding and mixing. It pays them to do this since we have a lot of their grain in storage and they might as well use it."

CORN SAMPLE — Ed Frazier, left, manager of the New Holland (Ohio) Grain Co., looks over a sample of corn which a farmer has brought in for grain bank storage.

This 16,000 bu. storage is not static. Mr. Frazier and his crew of eight men draw on it constantly for grinding and mixing, and more grain is constantly coming in. The mill is also equipped for drying grain. It has a Habco drier.

"Farmers raise quite a bit of corn, wheat, oats and soybeans around here, and they raise a lot of dairy cattle, hogs and also poultry," states Mr. Frazier. "This means they can use a lot of their own homegrown grains in the ration if they wish."

Delivery Service

In addition to using the grain bank plan, this firm will haul grain from the farm, grind it and mix it with concentrates, etc., to the farmer's formula and then haul it back to the farm. With this sort of program, the mill is geared to handle a feed order any way the farmer wants it.

More and more farmers are taking to the grain bank plan in this area, states Mr. Frazier, because it gives them the advantage of having grain in storage when it is needed for mixing. Grain storage also saves the farmer the time, trouble and expense of hauling it to the mill in smaller quantities. It also saves him the expense of handling and storing the grain on the farm from harvest time until it is ready to be used in the feed ration, Mr. Frazier points out.

To handle the large amount of grinding and mixing done regularly, the firm has the following equipment: A 3-ton Sidney mixer, a Kelly Duplex 1½-ton mixer, a Kelly Duplex hammer mill with a 60 h.p. motor, a Sidney sheller, a Sidney cleaner and a Gustafson grain treater.

When it comes to advertising, this dealer does some in a local newspaper and also uses direct mail periodically. He finds that postcard advertising now and then, quoting prices on feeds and supplies, brings fine results when not overdone.

TODAY'S HOUSEWIFE PREFERS
"The Bird with the GOLDEN LOOK"
In the final analysis, YOUR POULTRY FEED STANDS OR FALLS RIGHT HERE

DEHYDRATED ALFALFA IS YOUR CHEAPEST SOURCE OF XANTHOPHYLL PIGMENTATION... *NATURALLY!*

"In my opinion, the use of less alfalfa is a mistake since the xanthophylls in alfalfa are worth four times the cost of the alfalfa used in a ton of feed, even at the 5% level."

Dr. J. R. Couch,
Texas A & M College

The need for pigmentation in today's high-energy feeds is more critical than ever before. Alfalfa provides a rich-butter yellow pigmentation NATURALLY . . , as well as high quality protein, all important vitamins and minerals, plus the unidentified "alfalfa factor".
Seems evident: A proper level of high quality dehydrated alfalfa is a must for competitive manufacture of successful poultry feeds.

Wouldn't YOU pick the plate at the top?

Write for Free Report

American Dehydrators Association
PASTURE IN THE BAG

MEMBERS THROUGHOUT THE NATION TO SERVE YOU

AMERICAN DEHYDRATORS' ASSOCIATION
430 BOARD OF TRADE KANSAS CITY 5, MISSOURI

LONFOSCO Soft Phosphate with Colloidal Clay
Prepared by: Loncala Phosphate Co.
High Springs, Fla.
Distributed by: Warren-Douglas Chemical Co.
1513-15-17 Burt St., Omaha, Neb.

Marion MIXERS
ELIMINATE GUESSWORK IN MOLASSES MIXING!

Complete accuracy in Molasses mixing bag after bag!
One mixer For All Your Mixing Needs.
Mixes Both Dry and Molasses Feed.
SEND FOR FREE LITERATURE:
RAPIDS MACHINERY CO.
617 11th Street Marion, Iowa

SERVICE BULLETIN for members of the feed & poultry industries

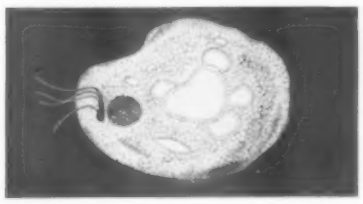
Blackhead in turkeys

(Infectious Enterohepatitis, Histomoniasis)

Blackhead, one of the most serious and costly diseases of turkeys, is caused by the protozoan parasite, *Histomonas meleagridis.*

HOW IS BLACKHEAD TRANSMITTED?

There are three possible routes by which the blackhead organisms reach susceptible birds.



1. Ingestion of infected, embryonated eggs of the cecal worm—*Heterakis gallinae* (under favorable conditions, cecal worm eggs are capable of surviving in the soil, and transmitting the blackhead organisms for periods up to 36 months);
2. Fecal contamination of feed and water supplies by infected birds or asymptomatic carriers—turkeys or chickens (Histomonads usually will not survive for more than 24 hours without the "protection" afforded by *Heterakis gallinae* eggs);
3. Carry-over of infected cecal worm eggs from one farm to another by insect vectors, by English sparrows, starlings, robins, and other birds, and by mechanical means.

The cecal worm is considered the primary source of blackhead infection. Some pathologists believe that the damage caused by these worms to the cecal wall may, in fact, help initiate the infection.

WHAT ARE THE SYMPTOMS OF BLACKHEAD DISEASE?

Few diseases, including blackhead, can be diagnosed on the basis of symptoms alone. Even the so-called "classical" signs of this disease such as darkening of the head parts and the passing of loose, watery, sulfur-colored droppings may sometimes be misleading. Symptoms that may be observed include loss of appetite, droopiness, weakness, and a marked loss of weight. The mortality rate ranges from 25 to 30 per cent but may go as high as 50 to 100 per cent in some untreated flocks.

WHAT ARE THE POSTMORTEM FINDINGS?

Although blackhead lesions are quite characteristic, a microscopic examination of intestinal scrapings is recommended to confirm the diagnosis and eliminate the possibility of mixed infection with *Hexamita meleagridis.* Postmortem findings are usually confined to the ceca and liver. The cecal walls, where most of the damage is evident, are swollen, ulcerated, and filled with foul-smelling, caseous, greenish-white cores. The cores are occasionally streaked with blood. Ulcers occasionally perforate the cecal wall and peritonitis results. (The lining over the intestines and the abdominal wall (peritoneum) and the air sacs may be thick and yellow, the lesions resembling those associated with air sac infection.)

From the ceca the histomonads enter the bloodstream and are carried to the liver. The lesions in this organ are in the form of more-or-less circular depressions, yellowish-green in color and approximately ½ inch in diameter.

ARE RECOVERED BIRDS IMMUNE TO SUBSEQUENT ATTACKS?

Experimental work by USDA research personnel suggests that rectal inoculation of a nonpathogenic strain of blackhead organism may confer immunity against disease-producing strains of this parasite in three to six weeks. *However, under field conditions there is little or no evidence that mild, moderate or severe infections confer any appreciable degree of immunity against future outbreaks.* For this reason prophylactic measures against blackhead losses are indicated from the time poults are placed on litter until they are ready for market.

HOW MAY BLACKHEAD BE TREATED?

In selecting anti-blackhead drugs two factors must be considered: (1) the drug must be highly effective against the protozoan parasites; and (2) it must be safe to use with no interference with *feed consumption, normal growth, sexual maturity,* subsequent egg production, fertility and hatchability.

HEPZIDE,* a water-soluble form of nithiazide, meets these two criteria—safety and effectiveness—in checking blackhead mortality in two to four days. Flocks treated with HEPZIDE continue to eat and drink and are usually back to normal in less than a week.

WHAT PREVENTIVE MEASURES CAN BE RECOMMENDED?

Blackhead prophylactic programs should have as a primary objective the reduction of exposure to the infected, embryonated eggs of the cecal worm. Preventive measures include the use of wire platforms for feed and water containers; segregation of turkey and chicken enterprises; range rotation with grazing by turkey flocks limited to once every two or three years (or moving birds on range to fresh grass every other week); avoiding the spreading of turkey or chicken droppings on turkey grazing areas; raising poults on wire covered or slatted platforms; and the periodic use of phenothiazine in an attempt to reduce the number of cecal worms in the environment.

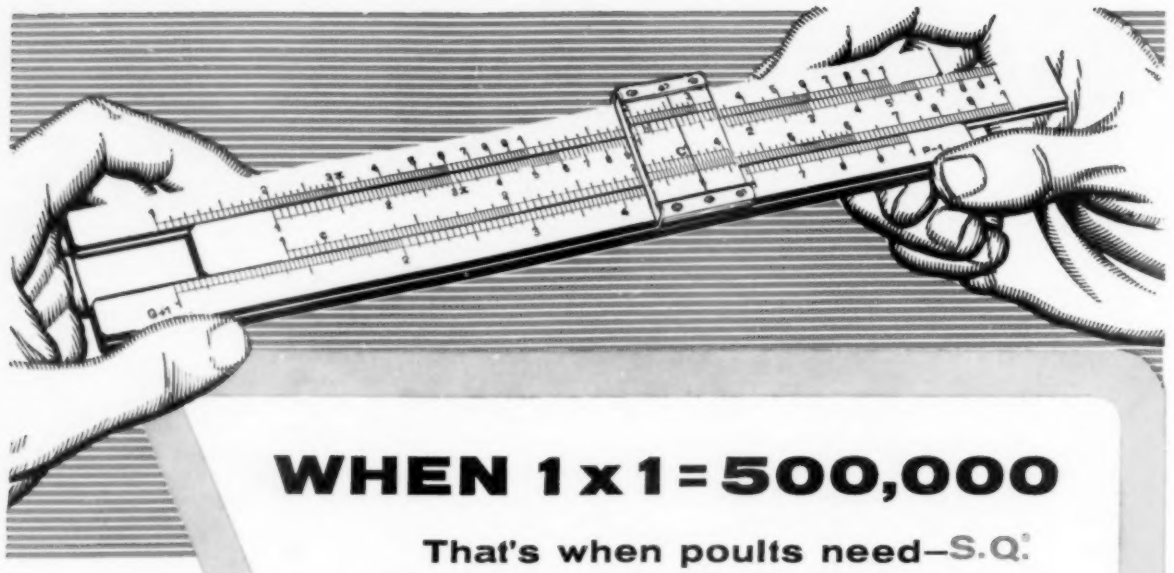
Unfortunately, none of these measures, alone or in combination, offers complete protection against blackhead tissue damage and mortality. The continuous use of low levels of *palatable* and *nontoxic* anti-histomonad drugs, such as HEPZIDE, in the rations of young and growing poults does provide effective protection against blackhead losses. Turkey feeds medicated with HEPZIDE are readily consumed. Poults continue to eat and grow with no setbacks in sexual maturity, subsequent egg production, fertility or hatchability. Except under rare conditions—when feed consumption falls in the presence of other diseases or stress conditions—low levels of HEPZIDE will provide continuous protection against blackhead and virtually eliminate blackhead mortality.*

*HEPZIDE ALSO IS EFFECTIVE IN THE TREATMENT AND PREVENTION OF HEXAMITIASIS IN TURKEY POULTS.

Prepared for members of the feed and poultry industries in the interest of poultry health. Merck & Co., Inc., Chemical Division, Rahway, New Jersey. Reprints of this article, and others in the series of Service Bulletins, are available on request.

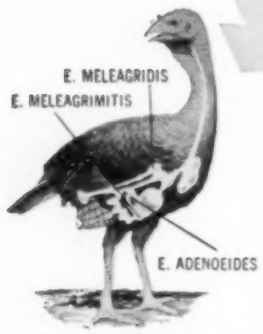
8-7-59, A-AG-102-06 PRINTED IN U.S.A.

©MERCK & CO., INC. ©MERCK & CO., INC. FOR NITHIAZIDE.



WHEN 1 x 1 = 500,000

That's when poults need—S.Q.® for protection against coccidiosis



One sick poult can rapidly infect an entire flock with coccidiosis. A single protozoan parasite before the completion of its life cycle will have produced *one-half million* oocyst offspring. *And, one sick poult may pass from 50-60 million oocysts during the course of its illness.*

With such a rapid build-up of organisms it is easy to see how one sick poult can rapidly spread the disease to an entire brood.

S.Q.—the most effective coccidiostat you can recommend

S.Q., continuously fed to poults from day-old until they are 8-12 weeks of age, will protect them against the profit-draining dangers of coccidiosis "breaks". This low-cost protection is a practical measure—even at times of low coccidial contamination. Subclinical infections, for example, with no apparent symptoms, may seriously affect weight gains and feed conversion. A damaged intestinal lining, regardless of the size of the lesions, cannot function as efficiently as a healthy intestinal tract.

A feeding program with S.Q. (Sulfaquinoxaline) will provide your turkey growers with maximum protection against *all* damaging species of turkey coccidia. A program that will more than pay for itself in increased weight gains, improved feed conversion ratios, and a reduction in mortality and cull birds.

S.Q. quickly controls outbreaks

Should a coccidiosis outbreak occur, in poults not receiving S.Q. protection, the prompt use of Sulfaquinoxaline, at therapeutic levels, will quickly curtail losses —help keep poults on feed until the condition is under control.

S.Q. is the only drug of its kind effective more than 48 hours after the coccidial infection has started. S.Q. works best during the 72-96 hour period when coccidia are most vulnerable to medication. Merck & Co., Inc., Chemical Division, Rahway, New Jersey.

BLACKHEAD a problem in your area? Why not recommend HEPZIDE* – a patented product of Merck–for *safe* control of Blackhead *and* Hexamitiasis.

If the feeding programs of your accounts call for the use of a growth-promoting, disease-reducing antibiotic supplement, be sure to check the advantages of low-cost dual action PRO-STREP®.

**Trademark of Merck & Co., Inc., for its brand of nithiazide*
®Merck brand for an antibiotic feed supplement

Research and Production for Better Poultry Health and Nutrition

MERCK

S.Q.—a product of MERCK
with THE MERCK MARGIN OF SURETY
Merck & Co., Inc., Chemical Division, Rahway, New Jersey

© Merck & Co., Inc.
®Merck Brand for an antibiotic feed supplement

Program Announced For Annual Michigan Cattle Feeders' Day

EAST LANSING, MICH. — A detailed examination of the cattle feeding outlook for 1958-59, a discussion of high moisture corn for beef cattle, antibiotics in the feed lot and a tour of beef farms for an examination of feeding experiments are scheduled for the annual fall Cattle Feeders Day to be held Sept. 11 on the Michigan State University campus here.

Dr. George Branaman, beef scientist at Michigan State University, said that visitors will see steers and heifers on a long, limited grain program and other lots on a delayed, full feed program. Researchers are trying to find out whether it is better to give fattening cattle some grain all of the time or give them full feed just at the last of the fattening period, he said.

Other experiments in progress include the determining of the role of pasture and the role of dry lot feeding in fattening cattle. There will be groups of steers on pasture in dry lot, both on limited feeding and full feeding programs.

One experiment which should attract special attention, Dr. Branaman said, is one with tranquilizers for cattle. Visitors will see how the cattle react and how they do in the feed lot when they are fed a tranquilizer, he said.

A roast beef dinner and general beef feeding discussion will conclude the day.

PLANS NEW ELEVATOR

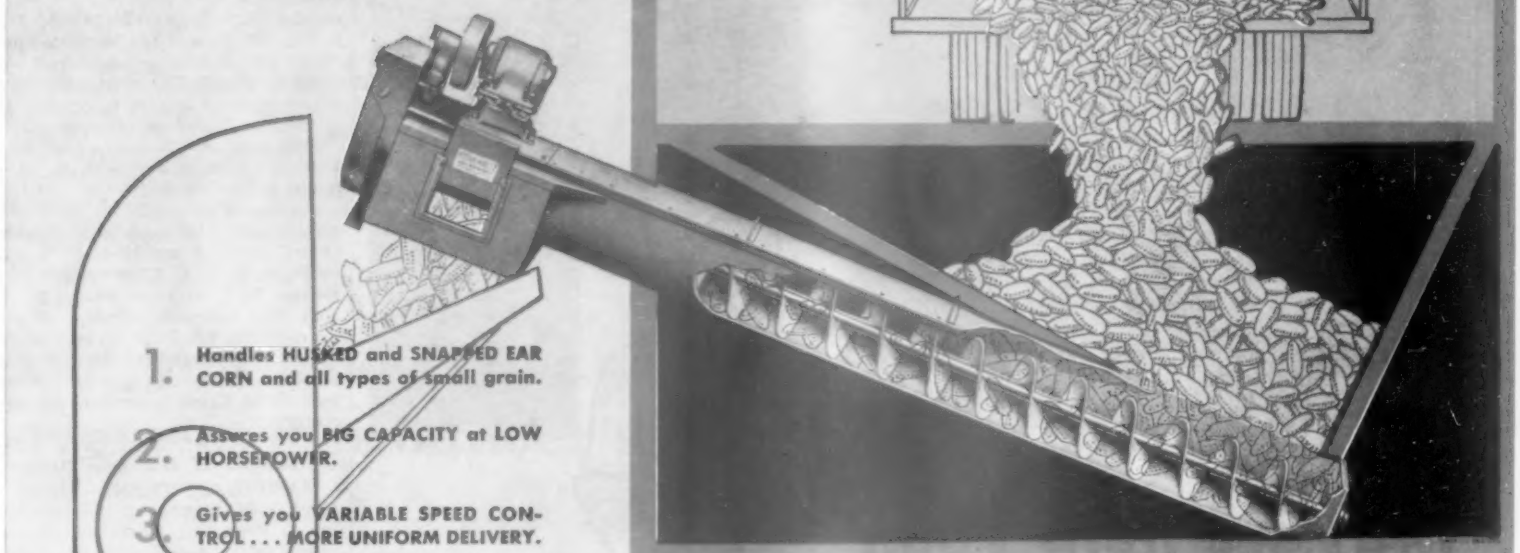
GREENBUSH, MINN.—A new elevator is being built for the Burkel Turkey Processing Plant here. The new building will be used for grinding and mixing poultry feed.

FEEDERS, MANUFACTURERS, SHIPPERS:
WE BUY AND SELL
• Oil Screenings • SCREENINGS • MUSTARD
• FEED GRAINS • CANADIAN FEED WHEAT
IN CAR AND TRUCK LOTS
WE LOAD AND UNLOAD
THE WHITTEN CO.
FEED GRAIN AND SCREENINGS SPECIALISTS
FLOUR EXCHANGE MINNEAPOLIS 15 FE. 3-0358

DICK WHITTEN

Pittsburgh Plate Glass Co.
34% LINSEED MEAL
MEAL SALES— 424 Flour Exchange Bldg., Minneapolis 15
Telephone FEderal 8-8469
PLANT AT RED WING, MINNESOTA

KELLY DUPLEX PIT AUGER
(ear corn conveyor)
a more efficient, more dependable system of pit unloading



1. Handles HUSKED and SNAPPED EAR CORN and all types of small grain.
2. Assures you BIG CAPACITY at LOW HORSEPOWER.
3. Gives you VARIABLE SPEED CONTROL . . . MORE UNIFORM DELIVERY.
4. REQUIRES LESS MAINTENANCE than any other type of pit unloader.

Built to meet your needs, the Kelly Duplex Pit Auger can be furnished in any length with choice of 12", 14" or 16" diameter screw—can have any length hopper opening—can have drive unit located at either end of the machine—and can be equipped with any size motor.

The Kelly Duplex Pit Auger offers you an entirely new system of pit unloading—a system designed to give you better delivery and BIGGER PROFITS. Constructed entirely of heavy, arc welded steel . . . it handles both husked and snapped ear corn as well as all types of small grain—assures an even, uniform flow of material—is smooth and noiseless in operation—and gives you big capacity at low horsepower. Maintenance costs are low because there are fewer moving parts—and far less chance of breakdown—than with any other type of pit unloader. Features include an inspection door at the discharge end . . . an enclosed gear reducer and enclosed roller chain drive, both of which run in oil . . . and variable speed control. An automatic motor control, which keeps auger from causing ampere fluctuation on a hammermill or other machine, is available as optional equipment.

CLIP ALONG THIS LINE . . . FOLD OVER, FASTEN . . . AND MAIL TODAY!

FIRST CLASS
Permit No. 72
SPRINGFIELD, OHIO

VIA AIR MAIL

BUSINESS REPLY ENVELOPE
No postage necessary if mailed in the United States

POSTAGE WILL BE PAID BY

The Duplex Mill and Manufacturing Company
Springfield, Ohio

FOLD OVER ON THIS LINE . . . FASTEN (STAPLE, GLUE, TAPE)

The Duplex Mill & Mfg. Co.
Springfield, Ohio

Yes, I'm interested in the KELLY DUPLEX machinery checked at the right. Please send me full information on these machines without any obligation.

☐ Send me information on Free Mill Planning and Layout Service

☐ Pit Auger
☐ Vertical Feed Mixer
☐ Instant Change Hammermill
☐ Remote Change Hammermill
☐ Twin Molasses Mixer
☐ Vertical Screw Elevator
☐ Electric Truck Hoist
☐ Chain Drag
☐ Corn Sheller with Blowers
☐ Regular Corn Sheller
☐ Pitless Corn Sheller
☐ Combined Sheller-Cleaner
☐ Gyrating Cleaner
☐ Corn Scalper
☐ Corn Crusher
☐ Corn Cutter and Grader
☐ Corn Crusher-Regulator
☐ Bucket Elevator
☐ Electric Bag Cleaner
☐ Forced Air Carloader
☐ Magnetic Separator
☐ Grain Feeder
☐ Grain Blower
☐ Complete Line Catalog

NAME _____
TITLE _____ PHONE _____
FIRM _____
CITY _____ STATE _____

Montana Researchers Test Additives in Wintering Rations

BOZEMAN, MONT. — An experiment to determine the effect of feeding Dynafac, stilbestrol and Terramycin in various combinations in wintering rations for cattle has been conducted at the Montana Agricultural Experiment Station.

Results of the test were reported by Dr. O. O. Thomas, department of animal industry and range management at Montana State College.

The addition of any of the feed additives to the ration increased daily gains. The control steers gained 1.31 lb. per day and steers fed Dynafac or stilbestrol gained 1.53 lb. for a 16% increase.

Steers fed a combination of the two gained 1.75 lb. a day for a 34% increase over the controls. Terramycin-fed steers gained 1.58 lb. per day for a 21% increase. Terramycin plus Dynafac or stilbestrol increased gains by 28% and 26%, respectively. Steers fed Dynafac, stilbestrol and Terramycin in combination gained 1.74 lb. per day for an increased gain of 32%.

All steers were fed at the same level of feed. Therefore, those lots of steers making the greatest gain required less feed per hundred pounds of gain. The control steers required a total of 1,206 lb. feed per hundred pounds of gain; this level decreased to 903 lb. for steers fed the ration containing Dynafac and stilbestrol in combination.

In the test seven lots of 80 Hereford steers and one lot of 98 Hereford-Angus crossbred steers were started on experiment. The calves were group-fed in similar pens which had a board fence for wind protection. Lots were not bedded, but remained fairly dry during the trial because of a gravel base.

The average daily consumption of feed per steer during the 118-day wintering period was 12 lb. of chopped alfalfa-grass hay, 1.6 lb. ground barley, 1.25 lb. of dehydrated alfalfa pellets, and 1 lb. of a grain pellet which served as a carrier for the feed additives. This pellet consisted of about 70% barley, 25% wheat and rye, and 5% molasses. Dynafac, stilbestrol and Terramycin were added to the various rations to give levels of 1 gm. of Dynafac, 10 mg. of stilbestrol and/or 75 mg. of Terramycin per pound of pellet.

The feeding trial was conducted at the Climbing Arrow Ranch, managed by Charles Kyd, who furnished the animals, feed and labor.

BUYS PORTABLE MILL

LAKEFIELD, MINN. — The Lakefield plant of Land O'Lakes Creameries, Inc., has purchased the portable feed mill and farm egg route of the Lakefield Egg Co., owned and operated by Leo Hengel. The plant has also installed eight Butler Bulk-O-Matic feed bins.

Sales Meeting Held By Peavey Feed Mills

MINNEAPOLIS—A goal of an extra half ton of milk per cow and a practical plan to achieve it were revealed at a recent territory managers' meeting of Peavey Feed Mills in Minneapolis.

With the theme, "Building Feeder Profits," the sales meeting kicked off Peavey Tone Feeds fall and winter activities. Sales managers covering seven states, officials and staff members of the company attended.

The goal of a thousand pounds of extra milk was described as "completely practical" by the firm's sales manager, J. R. Lindell. He cited an example recently reported in a farm paper where the feeder increased per-cow annual milk production by five tons in five years without bringing in cows from other herds.

"The firm will carry the plan to the farm through Tone dealers and sales personnel backed up with management information, a record-keeping program, improved feeding methods and farm feeder-aid calls," Mr. Lindell said.

Similar production increase goals were announced for laying flocks, bred sows and calves.

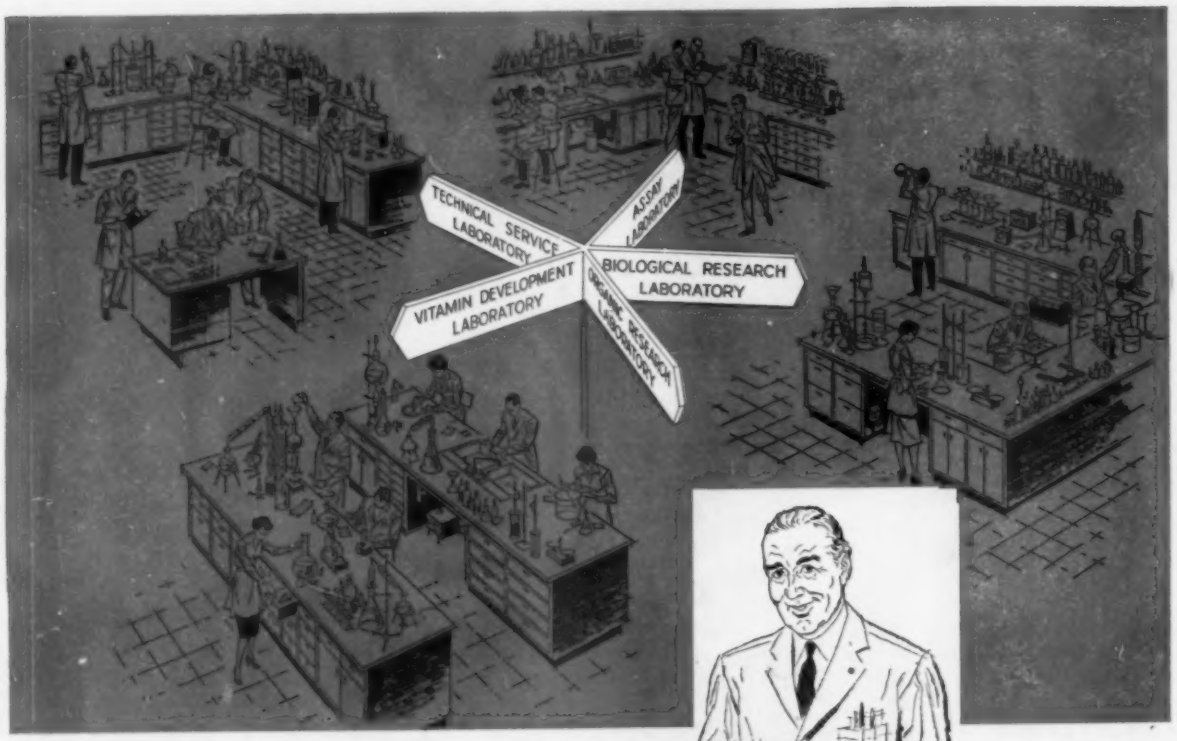
Also introduced at the meeting was a new dairy supplement featuring an "exclusive" palatability factor. Developed by M. M. Carpenter, director of Peavey Feed Mills research and product control, the new supplement with "added appetite appeal" has been taste-tested during recent months in comparison with dairy feeds used on outstanding Upper Midwest dairy herds. "In those tests it proved definitely superior in palatability," Mr. Carpenter said. The new taste factor is not believed to have been previously used in dairy supplements.

New products for sheep, beef cattle and laying flocks were also introduced at the meeting.

Peavey Feed officials and staff members who led sessions at the semi-annual meeting included: F. T. Heffelfinger, II, E. G. Cherbonnier, P. R. Reitan, H. I. Munson and J. R. Adams. Ron Kennedy, director of public relations for F. H. Peavey & Co., Minneapolis, addressed the group during the evening meeting on the subject, "The Extra Ingredient in Agriculture."

HARRY H. HUGHES DIES

NASHVILLE, TENN. — Harry H. Hughes, 88, founder of the Just Milling & Feed Co., Nashville, died recently in Daytona Beach, Fla., where he had resided for the past 25 years. Funeral services were held in Daytona Beach and burial was in Nashville.



May we help you?

This may be a good time to remind you that Nopco-Paks are custom-formulated and custom-blended individually for you.

Nopco-Paks are skillfully blended high-quality ingredients including the superior Micratized® Vitamins A and D, formulated to your specifications.

Nopco-Paks are formulated by qualified nutritionists in Nopco's Technical Service Bureau. The bureau's efforts are actively supported by Nopco's Technical Service Laboratory, Vitamin Development Laboratory, Biological Research Laboratory, Organic Research Laboratory, and Assay Laboratory.

With this accumulation of nutritional know-how behind us, we do not have to make exaggerated claims for Nopco-Paks. Rather, we prefer to say: "May we help you work toward the ideal premixes for you—nutritionally and economically?"

Discuss the whole matter with your Nopco representative or write us direct.

Visit us at Booth 12
World Poultry Congress, Mexico City
September 21-28, 1958

NOPCO®

NOPCO CHEMICAL COMPANY
General Offices: 60 Park Place, Newark 1, N.J.
Plants: Harrison, N.J. • Peoria, Ill. • Richmond, Calif.
Basic producers of Micratized® Vitamins A and D, niacin, calcium pantothenate, choline chloride, and other products

NOPCO-PAK®

THE BEST ROLLER MILL MADE
W-W crimps, cracks or crumbles every kernel. Has hardened "mill-type" rolls; single control wheel adjustment; heavy cast iron framework. Available in 6" to 36" widths. Sensible time-payment plan.

W-W GRINDER CORP.
DEPT. 311—2957 No. Market Wichita 4, Kans.

Attention Feed Manufacturers — Sell Your Own Brand Dog Food

- Will increase your sales
- Will increase your profit
- Will cost you less

Let more than 30 years' experience make your product for you.

For further information call or write . . .

CARSON FOOD COMPANY
Box 891 Ph. 8840
Danville, Illinois

Did you know you can tailor nf-180® layer feed to every egg producer's needs with these two plans?

There are two different approaches these days to the use of nf-180 in layer and breeder rations. Both work! And their flexibility lets you meet the needs of almost every situation.

Most poultry raisers agree that nf-180 *is* all it's cracked up to be . . . that it practically outdates all other poultry feed medications. But some flock owners champion one method of using nf-180 while an equally enthusiastic group prefers another way. Now you can satisfy both.

Quite a few poultrymen — especially the big commercial operators—prefer to feed a continuous low level of nf-180 to provide 25 grams furazolidone per ton of complete feed. They like the way it improves overall flock performance, stimulates egg production, and improves feed-egg ratios. This is the popular *Penny-a-Month* Low Level program.

Other egg producers are sold on nf-180 medicated feeds for periodic use to knock out disease and stress troubles. This is the *Week-a-Month Protective Feeding plan.* It is remarkably effective for fighting laying slumps, off-feed problems, disease outbreaks. An nf-180 booster feed (containing 100 grams of furazolidone per ton) is the ideal feed for this plan.

You'll have requests for information on nf-180 medicated feeds to fit both plans. So Hess & Clark has prepared two kits . . . one for each plan . . . which give the details you'll need to answer inquiries and set up specific programs for customers. Send for both the "Penny-a-Month" and "Week-a-Month" kits now, so you'll be fully armed with this versatile, flexible way to fill the feed and management needs of your poultry customers. The kits are free, of course.

NT-8-6

nf-180®
furazolidone
HESS & CLARK, Inc.
ASHLAND, OHIO

FEEDING HOGS TOMORROW

- **Confinement feeding—concrete vs. pasture**
- **Limited feeding compared to full feeding**
- **Methods of feeding and preparation of feeds**
- **Integration and swine production**

By Dr. J. H. Conrad
Purdue University

Dr. J. H. Conrad

EDITOR'S NOTE: In the accompanying article, Dr. Conrad reviews and summarizes experimental work on certain major aspects of swine feeding, and he provides a view of likely future developments. For the past six years, Dr. Conrad has been conducting swine nutrition experiments at Purdue University, Lafayette, Ind. Since 1953, he has been supervisor of the swine feeding unit, where the nutrition research results presented at the annual Purdue Swine Days are obtained. In January, 1958, he was awarded a Ph. D. degree from Purdue. He now holds the rank of assistant professor of animal science, and his duties are concerned with full-time swine nutrition research under Dr. W. M. Beeson, who is in charge of the animal nutrition research program at Purdue. This article is the text of a paper presented by Dr. Conrad at the 1958 Research Conference of the American Farm Research Assn. at Purdue University.

Rather than cover all phases of "feeding hogs tomorrow" this discussion will be limited primarily to:

1. Confinement feeding — concrete versus pasture.
2. Limited feeding as compared to full feeding.
3. Methods of feeding and preparation of feeds—pelleting, free-choice feeding of corn and protein supplement and feeding of complete mixed rations.
4. Integration and swine production.

CONFINEMENT FEEDING— CONCRETE VERSUS PASTURE

A. Confinement During the Growing-Finishing Period: According to the anatomical and physiological make-up of the pig, he was not intended to be a "hay-burner" nor a pasture-consuming animal, yet in years past we have advocated the widespread use of good legume pastures for nutritional as well as sanitary reasons. These recommendations were based on research in which it was shown that pasture feeding not only stimulated gains by supplying essential vitamins, minerals and amino acids, but it was also shown that pasture saved 5 to 10% of the corn and 30 to 40% of the protein concentrate needed to produce 100 lb. of pork.

Today, the complexity of a 1958 swine ration reflects (1) the nutritionist's evaluation of the needs of the pig, (2) the chemist's ingenuity in being able to synthesize and supply many complex nutrients in large quantities at a reasonable cost and (3) the feed manufacturer's engineering skill in being able to blend these ingredients so as to meet the nutritional requirements of the pig. The progress made by this team approach has brought about a near revolution in swine feeding practices. Thus we must re-evaluate some of our so-called "standard recommendations" in view of today's research results.

Confinement feeding of swine during the growing-finishing period is a practice that is definitely increasing. In order to evaluate the merits of the practice as well as prognosticate future trends, a comparison of concrete and pasture for feeding of growing-finishing swine is enlightening. The results of 12 different experiments conducted by six universities with a total of 948 hogs are summarized in Table 1. All pigs were full-fed nutritionally balanced rations throughout the growing and finishing period.

Results are briefly summarized as follows:

Where fed	Concrete	% Difference	Pasture
No. of pigs	474	..	474
Av. daily gain, lb.	1.56	2.6	1.52
Feed/100 lb. gain, lb.	320	3.1	310
Feed cost/100 lb. gain	$ 9.29		$ 8.96

A comparison of the above results showed that pigs fed on concrete gained 2.6% faster than pigs fed on pasture. Furthermore, pasture feeding saved only 10 lb. or 3.1% of the feed required per 100 lb. of gain, and the difference in feed costs amounted to only 33¢ worth of feed per 100 lb. of gain. If each pig gained 160 lb. during the growing-finishing period, this would be a feed saving of 16 lb. of feed worth 53¢. At the rate of 20 pigs per acre this would amount to 320 lb. of feed worth $10.60, or at the rate of 30 pigs per acre this would amount to 480 lb. of feed worth $15.90.

Results such as this concerning feeding pigs on concrete would not have been possible a decade ago. While these results reflect the progress made by swine nutritionists, it likewise indicates the need for nutritionally balanced rations when feeding on concrete. There is no doubt that in the past pasture has "covered up" for many nutritional deficiencies. Therefore, if pigs are to be raised on concrete, the feeder must assume full responsibilities for providing these pigs with all essential nutrients in the proper amounts and at the right time. Pasture and soil can not be expected to substitute for inadequate nutrition any longer.

Another interesting aspect of confinement feeding is the effect of exercise on growing-finishing hogs. The results of four trials conducted at Purdue (31) are summarized as follows:

Exercise Versus Confinement of Hogs Fed for Market

Treatment*	Exercise to 225 lbs.	Confined to 225 lbs.
No. of pigs	60	60
Initial wt., lb.	58	58
Av. daily gain, lb.	1.66	1.79
Av. daily feed, lb.	6.42	6.72
Feed/100 lb. gain	386	375
Av. backfat	1.90	2.01

*Exercised pigs were driven one-half mile twice a day.

In these trials, confined pigs gained 8% faster on 3% less feed than pigs that were driven one mile per day. These data indicate that pigs in confinement should grow faster on less feed than pigs that are allowed to exercise.

Other factors which should be evaluated in connection with confinement feeding are:

(1) An easily controlled summer environment by the use of a sprinkler system.

(2) Alternate uses of pastures formerly used for growing-finishing swine will return more when used as pasture for runinants or for production of cash crops.

(3) A confinement feeding system is especially desirable during the winter months, and consequently the facilities are available for year-round feeding.

B. Silage, Pasture and Fibrous Feeds During Gestation: Five years of research at Purdue have pointed out the possibilities of making extensive use of corn silage for sows and gilts during the gestation period. This research has shown the capabilities of the sow and gilt for utilizing 10 to 12 lb. of corn silage daily, and when this is properly supplemented with 1.5 lb. of a protein concentrate daily, feed costs are reduced about 25% and the number of pigs, both at birth and at weaning, is increased.

In the future, there is no doubt that more and more pigs will be raised on concrete during the growing-finishing period. With improved nutrition, better management and the increased mechanization of manure handling, the small advantages which now favor pasture feeding will make feeding on concrete more advantageous. Silage, pasture and other fibrous feeds will be used more and more in the gestation rations of the sows and gilts.

LIMITED vs. FULL FEEDING OF SWINE

Production of pork in Canada, Denmark and England is geared to meet rigid carcass specifications at the time of slaughter. In order to meet these specifications, they have found it necessary to limit the feed during the finishing period to 70 to 80% of a full feed. It should also be quickly pointed out that the price differential between the premium grade and the next lower grade is tremendous. This undoubtedly determines whether the pork raising venture in these three countries is a profitable operation.

The question, then, that we are concerned with is: "Will limited feeding of hogs during the finishing period (125 lb. to market) be necessary in order for us to produce the kind of pork that the American housewife wants?" The answer is a definite "no."

If the pigs we raise cannot produce No. 1 carcasses according to our present standards by the full feeding of corn and protein concentrate, then we are raising the wrong kind of pigs. Results of swine testing by the various swine evaluation stations vividly point out that producing a No. 1 carcass by full feeding in confinement is possible but only a small percentage of the hogs that are now being produced are capable of meeting these certification standards. With increased emphasis on the production of quality pork and more widespread use of swine evaluation stations, those pigs capable of producing No. 1 carcasses on a full feed of corn and protein concentrate will be propagated and the production of those pigs that must be limited-fed in order that they will produce No. 1 carcasses will be discontinued. This is not only the current trend, but it is the basis of the future practice. Progress in this direction will parallel the price differential in the market place.

METHODS OF FEEDING AND THE PREPARATION OF FEEDS

This area of swine feeding is probably one of the most controversial and widely discussed. Even though it has been studied extensively from time to time, an examination of the published experimental data indicates considerable variation in results which is due in part to experimental variables regarding the animals, the dietary ingredients and the environment. It is also an area of swine feeding which has been subjected to considerable "feedlot" observation, propaganda and personal prejudice. In order to present a clear and concise appraisal of the available data, a study was made of the experimental results which have been published by the various experiment stations dur-

TABLE 1. CONCRETE VS. PASTURE FOR GROWING-FINISHING SWINE

Source b‡	No. Pigs/ Treatment	Initial Wt.	Where Fed†: Concrete Daily Gain	Concrete Feed Eff.	Concrete Feed Cost	Pasture Daily Gain	Pasture Feed Eff.	Pasture Feed Cost
		lbs.	lbs.	lbs.	$	lbs.	lbs.	$
1. Illinois (24)	30	24	1.30	316	10.29	1.27	291	9.49
2. Illinois (24)	30	24	1.46	306	8.67	1.44	310	8.80
3. Illinois (24)	14	22	1.21	282	8.85	1.18	276	8.67
4. Illinois (24)	12	32	1.66	313	8.45	1.66	318	8.59
5. Kentucky (2)	34	45	1.98	338	11.48	2.04	331	11.26
6. Missouri (26)	21	35	1.60	325	....	1.50	302	...
7. Missouri (26)	18	45	1.62	309	....	1.53	321	...
8. Nebraska (18)	48	64	1.60	328	....	1.44	302	...
9. North Carolina (7)	64	35	1.46	358	....	1.36	339	...
10. Purdue (9)	72	40	1.64	310	8.49	1.57	299	8.05
11. Purdue (9)	72	41	1.65	322	9.19	1.63	308	8.45
12. Purdue (10)	67	37	1.56	330	8.89	1.63	318	8.33
AVERAGES			1.56	320	$ 9.29	1.52	310	$8.96

†Note: Daily gains, 9 of 12 comparisons favor concrete; Feed Efficiency, 8 of 12 comparisons favor pasture; Feed Cost, 6 of 8 comparisons favor pasture.
‡Reference numbers are listed in parentheses following the names of the experiment stations.

TABLE 2. FREE CHOICE VS. COMPLETE MIXED RATIONS FOR GROWING-FINISHING PIGS FED ON CONCRETE

Source b‡	No. Pigs/ Treatment	Initial Wt.	Method of Feeding Corn & Supplement†: Free-Choice Daily Gain	Free-Choice Feed Eff.	Free-Choice Feed Cost	Complete Mixed Rations Daily Gain	Complete Mixed Rations Feed Eff.	Complete Mixed Rations Feed Cost
		lbs.	lbs.	lbs.	$	lbs.	lbs.	$
1. Illinois (4)	60	24	1.35	304	9.77	1.42	306	9.48
2. Iowa (6)	55	..	1.52	372	10.79	1.58	361	9.84*
3. Kentucky (3)	10	40	1.57	331	9.94	1.87	333	10.70
4. Michigan (16)	9	26	1.40	316	9.08	1.43	348	10.51
5. Michigan (17)	10	29	1.41	301	8.02	1.39	305	8.49
6. Nebraska (29)	20	41	1.44	332	10.08	1.36	356	10.57
7. North Carolina (7)	50	36	1.39	346	10.06	1.41	356	11.07
8. Ohio (23)	59	44	1.61	347	8.72	1.68	362	10.00
9. Purdue (5)	12	45	1.65	317	8.72	1.74	327	9.76
AVERAGES			1.48	330	$ 9.46	1.54	339	$10.05

†Note: Daily Gains, 7 of 9 comparisons favor C. M. Rations; Feed Efficiency, 8 of 9 comparisons favor Free Choice; Feed Cost, 7 of 9 comparisons favor Free Choice.
‡Reference numbers are listed in parentheses following the name of the experiment stations.
*No charge for grinding and mixing.

AH, CURA-PHOS!

Great for livestock. And poultry, too. Matter of fact, there's nothing else better. Cura-phos® is ground phosphate rock from the island of Curacao. It comes from no other place in the world. It's a rich, natural product obtained from nature's stockpile of mineral wealth. Highest quality. Highest availability. Guaranteed analysis — 14% phosphorus and 31% calcium, and no more than 0.5% fluorine. Cura-phos helps build the feeds that help grow the profits for all poultry and livestock. No wonder over one million tons have been gobbled up by the feed industry.

ESTABLISHED 1850

H. J. BAKER & BRO.

NEW YORK • CHICAGO • SAVANNAH
ATLANTA • TAMPA

serving the feed industry for 108 years

VAN DUSEN HARRINGTON
DIVISION
F. H. Peavey & Co.
GRAIN SOYA BEANS FLAX
Founded 1852
MINNEAPOLIS Pv DULUTH

LA BUDDE
MILWAUKEE, WIS.
MALT SPROUTS
BREWERS GRAINS
DISTILLERS GRAINS
BEET PULP
AND 44 OTHER FEEDS

TABLE 3. FREE CHOICE VS. COMPLETE MIXED RATIONS FOR GROWING-FINISHING PIGS FED ON PASTURE

Source b‡	No. Pigs/ Treatment	Initial Wt.	Method of Feeding Corn & Supplement†: Free-Choice: Daily Gain	Free-Choice: Feed Eff.	Free-Choice: Feed Cost	Complete Mixed Rations: Daily Gain	Complete Mixed Rations: Feed Eff.	Complete Mixed Rations: Feed Cost
		lbs.	lbs.	lbs.	$	lbs.	lbs.	$
1. Florida (27)	15	45	1.51	316	10.24	1.70	339	12.00
2. Illinois (4)	60	24	1.11	294	8.29	1.40	298	9.14
3. Iowa (6)	90	..	1.43	343	10.79	1.56	345	10.37*
4. Kentucky (3)	10	45	1.53	312	8.95	1.54	331	10.64
5. Kansas (1)	10	57	1.51	349	....	1.70	346	...
6. Minnesota (14)	80	..	1.54	362	10.21	1.51	366	10.32
7. Nebraska (28)	40	44	1.35	333	9.65	1.30	351	9.90
8. Nebraska (30)	10	55	1.44	291	8.84	1.36	327	9.63
9. Purdue (8)	12	48	1.46	321	7.94	1.64	327	8.87
10. Purdue (5)	12	41	1.47	304	8.09	1.70	310	8.76
AVERAGES			1.44	323	$ 9.22	1.54	334	$ 9.96

†Note: Daily Gains, 7 of 10 comparisons favor C. M. Rations; Feed Efficiency, 9 of 10 comparisons favor Free-Choice; Feed Cost, 8 of 9 comparisons favor Free-Choice.

‡Reference numbers are listed in parentheses following the name of the experiment stations.

*No charge for grinding and mixing.

ing the past four years. A simple average of the available information concerning free choice versus complete mixed rations both on concrete and pasture and the effects of pelleting have been calculated and the details of the summaries are given in Tables 2, 3 and 4.

A. Free Choice vs. Complete Mixed Rations for Growing-Finishing Pigs:

Concrete: A comparison of the results from nine different experiments conducted by eight experiment stations with a total of 570 pigs fed free-choice on concrete is summarized briefly as follows:

Where fed How fed	On Concrete: Free-Choice	% Difference	Complete Mixed Ration
No. of pigs	285	..	285
Av. daily gain, lb.	1.48	4	1.54
Feed/100 lb. gain, lb.	330	3	339
Feed cost/100 lb., gain	$ 9.46	..	$ 10.05

A comparison of the above results shows that pigs fed complete mixed rations on concrete grew 4% faster but that the free-choice fed pigs made more efficient gains by requiring 3% less feed. Due to the saving in feed and the saving of the grinding and mixing cost, the feeding of free-choice rations on concrete, weaning to market, resulted in a saving of 60¢ for every 100 lb. of pork produced. A detailed appraisial of the results in Table 2 shows that pigs in seven out of nine experiments grew faster on complete mixed rations. However, free-choice fed hogs made more efficient gains in eight out of nine experiments and the feed costs were in favor of free-choice feeding in seven out of nine experiments.

Pasture: A comparison of the results from 10 different experiments conducted by eight experiment station with a total of 678 pigs fed free-choice on pasture is summarized briefly as follows:

Where fed How fed	On Pasture: Free-Choice	% Difference	Complete Mixed Ration
No. of pigs	339	..	339
Av. daily gain, lb.	1.44	7	1.54
Feed/100 lb. gain, lbs.	323	3.4	334
Feed cost/100 lb. gain	$ 9.22	..	$ 9.96

A comparison of the above results shows that pigs fed complete mixed rations on pasture grew 7% faster but that the free-choice fed pigs made more efficient gains by requiring more than 3% (3.4%) less feed. Due to the savings in feed and the saving of the grinding and mixing cost, the feeding of free-choice rations on pasture from weaning to market resulted in a saving of 74¢ for every 100 lb. of pork produced. A detailed appraisal of the results in Table 3 shows that pigs in seven out of 10 experiments grew faster on com-

with Swift's
YOU BRING THE
MINERAL BUSINESS
WHERE IT BELONGS...
to your own feed store!

Swift is the NAME that stockmen know and prefer in minerals . . . a value that makes livestock sense!

A Full Line of minerals to meet every livestock need. Each one is *complete*, including trace ingredients. Blended and balanced for top results. Available in bags and blocks.

FREE—*Your Complete Selling Program on Swift's Mineral*—New display idea, striking poster, newspaper ad mat, radio spots, copies of Swift's advertising for posting. See how easy it is to make your store, elevator or mill THE PLACE TO BUY MINERAL! Use coupon below—now.

Swift's Golden Supplement Block provides another volume builder to team with Swift's Minerals. You can really sell today's greatest low-cost protein boost for cattle on range or pasture! Check coupon for this new feeding story—now.

FEED DEPARTMENT, CHICAGO 9, ILLINOIS

Swift
103RD YEAR

WHEN YOU'RE SELLING TO MAKE MONEY, SWIFT'S YOUR FINEST LINE

☐ Send FREE complete selling program on Swift's Mineral.
☐ Send full story on Swift's Golden Supplement Block.
Name and address of my jobber
Name:
Firm:
Address:

Whitmoyer
KEMITRACIN
the purified ANTIBIOTIC complex—
that does your feed antibiotic job better!
Send for complete scientific data.
WHITMOYER LABORATORIES, Inc.
MYERSTOWN, PENNA.

TABLE 4. EFFECT OF PELLETING SWINE RATIONS

Source	No. Pigs/ Treatment	Grain Portion of Ration†	——Meal—— Daily Gain	Feed Eff.‡	——Pellet—— Daily Gain	Feed Eff.‡	Differences in F. E. Due to Pelleting*
Idaho (20)	20	Barley, Wheat, Oats	1.73	510	1.85	375	+135
Idaho (20)	24	Barley, Wheat, Alf.	0.74	535	0.98	440	+ 95
Illinois (19)	10	Barley	0.82	382	1.09	357	+ 25
N. Dakota (11) .	10	Barley	1.57	409	1.79	338	+ 71
N. Dakota (11) .	10	Barley	1.40	356	1.58	337	+ 19
N. Dakota (13) .	10	Barley	1.44	381	1.61	347	+ 34
N. Dakota (12) .	10	Barley	1.39	428	1.46	369	+ 59
N. Dakota (12) .	10	Barley + Oat Hulls	1.34	521	1.57	400	+121
Montana (25) ..	90	Barley, Wheat, Oats	1.23	474	1.35	421	+ 53
Montana (25) ..	24	Barley, Wheat, Oats	1.62	414	1.88	345	+ 69
Averages ...			1.33	441	1.52	373	+ 68
Nevada (22)	14	50% Alfalfa	1.20	583	1.50	452	+131
Illinois (19)	10	Sorghum grain	1.71	356	1.79	335	+ 21
N. Dakota (11) .	10	Corn	1.43	338	1.43	321	+ 17
Illinois (19)	10	Corn	1.77	335	1.77	349	— 14
Illinois (19)	10	Oats	1.62	374	1.50	421	— 47

†Rations fed were nutritionally balanced rations of grain and protein supplement, but only the grain portion of the ration is listed.

‡Feed efficiency indicates feed required per 100 lb. of gain.

*Differences in feed efficiency (+ indicates feed saved per 100 lb. of gain due to feed efficiency).

plete mixed rations. However, free choice fed hogs made more efficient gains in nine out of 10 experiments, and the feed costs were in favor of free choice feeding in eight out of nine experiments (this would have been 10 out of 10 if the feed cost of the Iowa experiment had included a grinding and mixing charge).

In general, the average of the results of all stations indicates that the difference in gains between methods of feeding on pasture is greater than the difference in gains between methods of feeding on concrete. Purdue results (Beeson et al. 1956) indicate that the best procedure to follow for pigs on pasture is to feed complete mixed rations until the pigs weigh 70 lb., then change to the free choice method of feeding.

In the Midwest, where corn and protein supplement are the basis of swine rations, the previous summaries indicate that the free-choice feeding of corn and a suitable supplement is an economical as well as a satisfactory method of feeding growing-finishing pigs. Unless greater advantages can be found for complete mixed rations in the future than are presently indicated, the feeding of free-choice rations of corn (shelled, cracked or ground) and protein supplement will continue to be a popular as well as an economical way to feed growing-finishing swine. Feeding of "high-moisture" corn would be largely on a free-choice basis, but at the present time, it is impossible to predict how extensive will be the shift from dry-corn to that of "high-moisture" corn. We do know that this method of storing corn for hogs must be considered on its merits as a method of storing and handling corn and not as a method of improving the nutritional value of corn.

The free-choice method of feeding has not been recommended when oats, barley or sorghum has been the principal grain fed. However, Hillier and Martin (15) have presented experimental data to show that "the advantage of feeding a mixed ration over the free-choice feeding of ground milo and supplement is small from the standpoint of both rate and economy of gain."

B. Effect of Pelleting Swine Rations: The pelleting of certain swine rations appears to have some definite

(Continued on page 44)

keep fully covered by handling

Shellbuilder

pure crushed reef oyster shell

Shellbuilder Co.
Melrose Bldg. • Houston, Texas

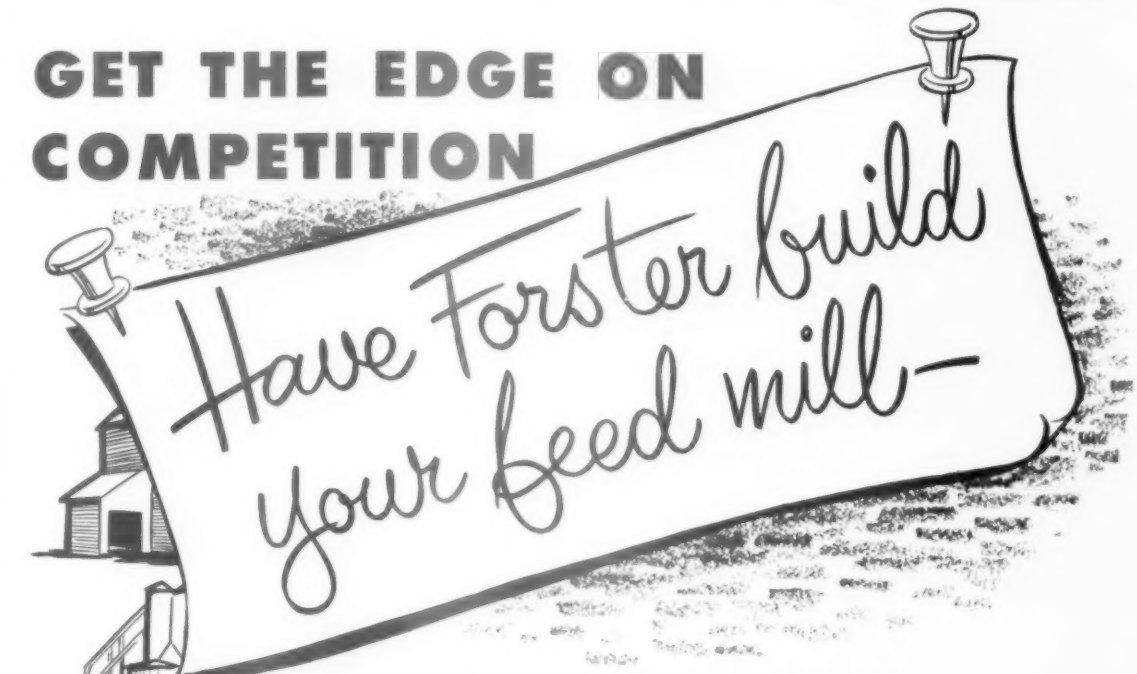
NELLIS
FEED COMPANY
Brokers
of Feed Ingredients
4010 Board of Trade Bldg.
WAbash 2-7322 TWX 623 Chicago 4, Ill.

Herman Nagel's
Trace Mineral
CONCENTRATE

Where only trace minerals are to be added, Herman Nagel's Trace Mineral Concentrate supplies all eight, in correct balance.

THE HERMAN NAGEL CO.
53 W. Jackson Blvd., Chicago 4, Ill.

GET THE EDGE ON COMPETITION

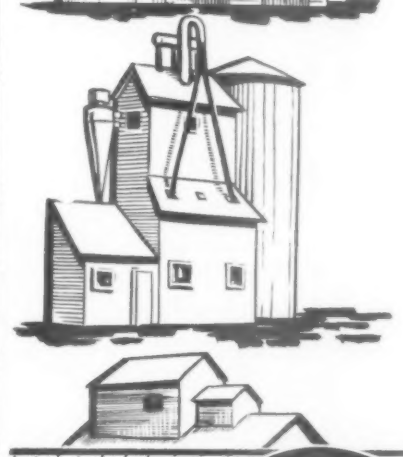


BIG PLANT OR LITTLE
FORSTER DESIGNS AND BUILDS
COMPLETE FEED MILLS

Forster-built feed mills make more profit for the owner! The right capacity and ingredient-handling help you produce the best feed at lowest cost. Forster experience and facilities assure the most efficient design and construction for your particular needs.

Because Forster also manufactures a complete line of feed milling machinery, you can expect Forster to save you money on a complete "turnkey" job.

Get in touch with Forster today.



MANUFACTURING FORSTER COMPANY
ADA, OKLAHOMA

TELEPHONE FEderal 2-6020, ADA, OKLAHOMA

FORSTER MANUFACTURING CO., ADA, OKLA.
Gentlemen:
I am interested in building a new feed mill.
I would like to discuss my needs with you.
No obligation.

Name.....
Street.....
City..... State.....

Pfizer announces

New way to boost TRAN-Q®

*BRAND OF HYDROXYZINE HYDROCHLORIDE

AN ENTIRELY NEW KIND OF FEED INGREDIENT —UNLIKE ANY NOW IN YOUR BEEF FEEDS!

- **Boosts beef gains 6%-27%... all-trial average 12.4%!**
- **Improves feed efficiency 5%-23%... all-trial average 10.2%!**
- **Adds up to $11.13 increased return per head after Tran-Q is paid for!**
- **Extra gains, improved feed efficiency are in addition to those obtained with stilbestrol, antibiotics and other extra growth-promoting feed ingredients.**
- **Effective in all kinds of rations including high-roughage and high-energy finishing feeds.**

New developments as the feeding of stilbestrol helped turn cattlemen into good feed industry customers. Feed companies that got into the market early, benefited most.

Now here's an entirely new kind of feed ingredient—just as dramatic and useful as stilbestrol!

A block-buster of a gain booster

Tran-Q is a unique member of the tranquilizing drug family that has been undergoing extensive feeding trials for many years.

Trial results show feeds containing Tran-Q boosted beef gains 6%-27% with an all-trial average of 12.4%! Feed efficiency improvements ranged from 5%-23% with an all-trial average of 10.2%!

The extra dollar return added by Tran-Q was up to $11.13 per head over and above its cost!

Unlike anything in your feeds

The extra gains and improved feed efficiency your customers will get when your feeds contain Tran-Q are not available from any other feed ingredient.

For example, in one 84-day trial, Terramycin gave an 11% improvement in gain and a 9% improvement in feed efficiency. Stilbestrol gave a 17% increase in gain and a 13% better feed efficiency. A combination of Terramycin and stilbestrol gave a 23% boost in gain and a 16% improvement in feed efficiency.

When Tran-Q was added in all three cases, there was a *further* 12% improvement in rate of gain and a *further* 7% improvement in feed efficiency!

Helps protect carcass grade

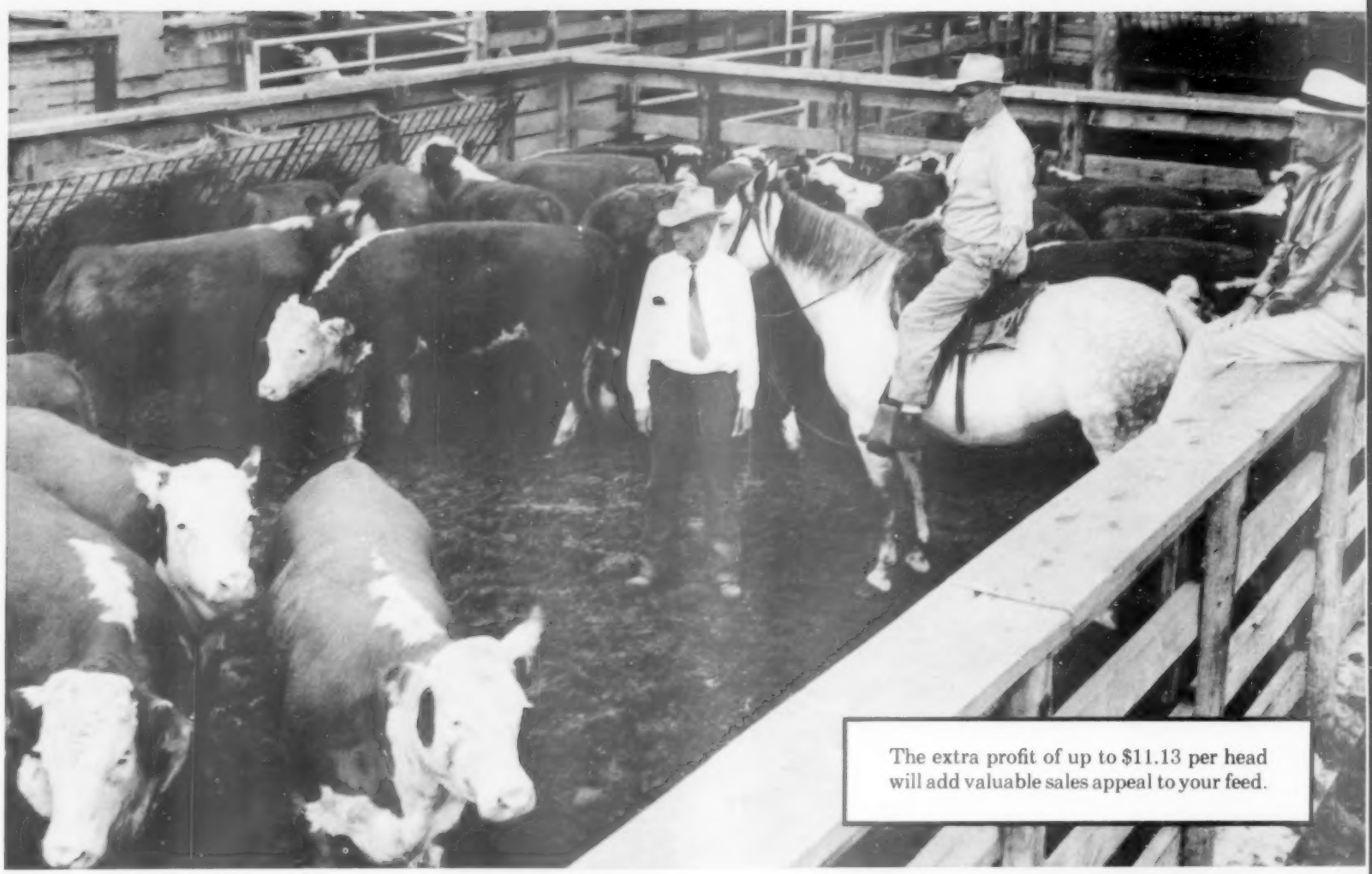
In another trial, the control ration contained stilbestrol and Terramycin. These yearling steers averaged an excellent 2.88 lbs. a day for the 110-day feeding period.

But a similar group got the same ration plus Tran-Q and averaged 3.13 lbs. a day—an increase of 9%! They also ate 5% less feed per lb. of gain.

There was no significant difference in dressing percentage. *But* . . . the group without Tran-Q had an average *high-good* carcass grade while the steers getting Tran-Q had an average *low-choice* carcass grade.

Cattle apparently have a great toler-

beef feed sales!



The extra profit of up to $11.13 per head will add valuable sales appeal to your feed.

ance to Tran-Q. In feeding trials as much as 400 times the recommended dose has been given without harm.

Feedlots immediate sales target but . . .

The bulk of research data your Pfizer representative can show you right now is on the feedlot animal. Here, a response has been obtained with Tran-Q throughout the *entire finishing period*. So the immediate market for feeds containing Tran-Q is big.

Moreover, research now underway is expected to extend the use of feeds containing Tran-Q right down to the calf. Tran-Q may well be the nutritional development that will break the market for formula feeds wide open.

Spectacular results with sheep, too

In work with lambs, feeds containing Tran-Q have given improvement in rate of gain up to 42% and up to 22% improvement in feed efficiency.

The average dollar return per animal over controls was $ .87 over and above the cost of Tran-Q based on feed prices at time of tests.

A versatile ingredient

Tran-Q is effective in all kinds of rations including high-roughage and high-energy finishing feeds.

Feed companies should add Tran-Q at a rate that when fed will furnish a recommended level of 2½ mg. per head per day.

Get full data now

Pfizer has submitted data to FDA by which feed manufacturers can obtain approval for feeds containing Tran-Q. Data on combinations of Tran-Q and other feed additives are now being accumulated for submission to FDA for early clearance.

Remember, Tran-Q is an entirely new kind of feed ingredient—unlike any now in your beef or sheep feeds. The feed companies and feed dealers that bring this important nutritional discovery to producers in their area first will benefit the most. Call your Pfizer representative for details on this new way to boost feed sales.

Pfizer

Chas. Pfizer & Co., Inc.

Suppliers of antibiotics, vitamins and other growth-promoting feed ingredients to the feed industry.

630 Flushing Ave., Brooklyn 6
6460 W. Cortland St., Chicago 35
7600 Ambassador Row, Dallas 7
5251 Peachtree Industrial Blvd., Chamblee, Ga.
1500 15th St., San Francisco 3
5330 Royalmount Rd., Montreal 9, P.Q., Canada

advantages, but these advantages are more pronounced with swine rations which contain large amounts of barley, oats or other fibrous feeds, such as alfalfa meal. Effect of pelleting swine rations is largely associated with the fiber portion of the ration. The advantages of pelleting fibrous swine rations are as follows:

(1) Increased density—pelleting the ration allows the pig to eat more, which results in faster gains and improved feed efficiency,

(2) Less feed wastage—pelleting prevents sorting and the pigs "root" less feed out of the feeder, and

(3) Greater palatability—pelleting appears to increase the palatability of fibrous rations.

The main disadvantage of pelleting rations is the added cost incurred through pelleting and the increased cost of transportation and handling. The latter may be prohibitive if the pelleting equipment is not located within a reasonable distance from the farm where the grain is grown and fed.

Effect of pelleting barley-containing rations for pigs has been studied more than that of other grains, and a summary of the experimental results is given in Table 4. A brief summary of the results of 10 experiments with 436 pigs is as follows:

Barley Containing Rations

Rations fed	Meal	Pellet
No. of pigs	218	218
Daily gain	1.33	1.52
Feed efficiency	441	373

Pelleting increased gains 14% and resulted in a saving of 15% of the feed or 68 lb. of feed per 100 lb. of gain when barley was the major carbonaceous feed in the swine ration.

Pelleting of mixed rations containing corn and protein supplement had no effect on daily gains and little, if any, effect on feed efficiency. In the North Dakota study (11), pelleting saved 17 lb. of feed per 100 lb. of gain but in the Illinois study (19), pigs fed the pelleted ration required 14 lb. more feed per 100 lb. of gain.

Pelleting of rations containing 50% alfalfa meal by the Nevada workers (21), saved 131 lb. of feed per 100 lb. of gain and increased gains 25%. However, Illinois (19) reported that pigs fed a pelleted oats and protein supplement ration required 47 lb. more feed per 100 lb. of gain and gained 7% slower than those fed the same ration in the form of a meal.

Since the cost of pelleting is one of the big disadvantages, the question is "how much feed do you need to save to cover the cost of pelleting?" Assuming a nominal fee of $3 per ton pelleting cost and that feed is worth three cents per pound, 5% or 100 lb. of feed per ton of feed fed would need to be saved just to cover the cost of pelleting. Pelleting of rations composed primarily of barley indicates that at least 5% of the feed is saved by pelleting. However, the pelleting of a corn-supplement ration does not appear to result in sufficient feed saved to cover the cost of pelleting.

Another interesting comparison is to evaluate the amount of feed required under three methods of feeding—complete mixed ration as a meal or a pellet and free-choice feeding. Data presented in Table 2 showed that pigs fed complete mixed rations required 3% more feed than pigs fed free-choice; then by pelleting (Table 4), this may result in a 3% saving in feed—the net result would be that we are back to the same feed efficiency as obtained by free-choice feeding but with an added grinding, mixing and pelleting cost of $5 to $6 per ton of feed.

INTEGRATION AND SWINE PRODUCTION

Integration and its various implications have been more widely discussed during the past year than any other topic affecting agriculture.

Vertical integration is the control by a single firm of two or more stages in the chain of production, processing and distribution. It may come about by cooperative arrangements, by the use of contracts or by ownership.

Integration in swine production is not new. Early swine production and marketing were completely integrated since all the stages in the chain of production, slaughtering and retailing were done by one man—the farmer. American agriculture has had much experience with integration through contracts with canning crops, sugar beets and eggs for hatcheries.

Current status of integration in the poultry industry shows that 90% of the broilers and half the turkeys are produced under an integrated program. But hatching eggs have been produced under contract for years.

According to Prof. Robert Kramer of Michigan State University "the swine industry will become highly involved in vertical integration programs if present trends continue." He also pointed out that only 60,000 farms with 100 sows producing two 8-pig litters per year could supply us with 96 million hogs. This compares with our average annual production of 89 million head during the past 12 years. These 60,000 farm units compared with 2.5 million hog farms reported in the 1954 Census of Agriculture.

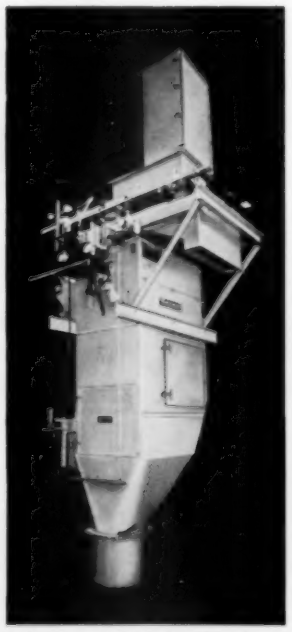
Although less than 10% of the hogs at present are now coming from integrated programs, two thirds of the major meat packers and feed manufacturers have experimental programs in progress.

It is quite likely that the Corn Belt will lose part of its hog production to the South. This shift may be speeded somewhat due to integration. The availability of lower cost labor, lower land cost and the search for new enterprise, favor an increase in southern swine production. Geographic bar-

That's the record of performance experienced by feed mills after installation of a Richardson GB-38 Bagging Scale. And these speeds are maintained hour after hour, with accuracies that insure against costly overweights or embarrassing shortweights. You'll be amazed too, when you learn how a Richardson GB-38 Bagging Scale can step up production, cut unit bag costs in the mill.

An all-purpose feed bagger, the GB-38 weighs all feeds from mashes to range cubes to 30% molasses into 50, 80 or 100-lb. bags. Fully automatic, the scale operates with Weights and Measures approved sensitivities. Inner parts are stainless steel and washable. For dairy feeds, Teflon lining is available. Durable construction and simple operation, understandable to every mill man, mean long years of trouble-free service.

The GB-38 Bagging Scale is a product of the world's foremost manufacturer of automatic weighing and proportioning equipment. Every installation is backed by Richardson's nationwide network of service facilities. When required, assistance is available within 24 hours. For further information on how the Richardson GB-38 can help you achieve new efficiency and economy in your bagging operation, write today.



Richardson GB-38 Bagging Scale, featuring belt feeder, variable feed control, remote compensation, counter and, above all, extreme accuracy at high speeds!

Richardson Scales conform to U.S. Weights and Measures H-44 for your protection.

Richardson
MATERIALS HANDLING BY WEIGHT SINCE 1902

RICHARDSON SCALE COMPANY • CLIFTON, NEW JERSEY
Sales and Service Branches in Principal Cities
Also manufactured in Europe to U.S. standards

1961

WISCONSIN ALUMNI RESEARCH FOUNDATION

LABORATORY SERVICES

PRACTICAL CHICK FEEDING STUDIES IN BATTERIES OR ON LITTER

DETERMINATIONS OF:
•VITAMIN B_{12} •ANTIBIOTICS
•ARSENICALS
A.O.A.C. vitamin D_3 chick assays
U.S.P. vitamin D rat assays — results in 8 days
U.S.P. or A.O.A.C. vitamin A assays
Other vitamin assays
Amino acid assays
Biological protein evaluations
Proximate analyses and mineral determinations
Insecticide Testing and Screening
Other biological, chemical and microbiological services
PROJECT RESEARCH AND CONSULTATION

Write for price schedule

WISCONSIN ALUMNI RESEARCH FOUNDATION
P.O. Box 2059-N • Madison1, Wis.

riers are not as pronounced today as we once knew them. Consequently, in the future, pigs will be produced more and more by those who can do the job most efficiently rather than by those who produce pigs just because they have a supply of corn.

Experiments involving numerous approaches to integration in the swine industry are currently being conducted. The future questions are "what form of integration will we have in the swine industry?" and "how widespread will the industry be integrated?" rather than, "will we have integration?"

SUMMARY

In the future, there is no doubt that more and more pigs will be raised on concrete during the growing-finishing period. With improved nutrition, better management and the increased mechanization of manure handling, the small advantages which now favor pasture feeding will make feeding on concrete more advantageous. Silage, pasture and other fibrous feeds will be used more and more in the gestation rations of the sows and gilts.

With increased emphasis on the production of quality pork and more widespread use of swine evaluation stations, those pigs capable of producing No. 1 carcasses on a full feed of corn and protein concentrate will be propagated and the production of those pigs that must be limited-fed in order that they will produce No. 1 carcasses will be discontinued.

Unless greater advantages can be found for complete mixed rations in the future than are presently indicated, the feeding of free-choice rations of corn (shelled, cracked or ground) and protein supplement will continue to be a popular as well as an economical way of feeding growing-finishing swine.

Pelleting of rations composed primarily of barley indicates that at least five percent of the feed is saved by pelleting. However, the pelleting of a corn-supplement ration does not appear to result in sufficient feed saved to cover the cost of pelleting.

Experiments involving numerous approaches to integration in the swine industry are currently being conducted. The future questions are "what form of integration will we have in the swine industry?" and "how will the industry be integrated?" rather than "will we have integration?"

v v

Review of Literature

1. Aubel, C. E. 1957. Free-Choice Feeding of Shelled Corn and a Mixed Protein Supplement Compared with Feeding Completely Mixed Rations in Pelleted and Non-Pelleted Forms to Pigs on Sudangrass Pasture. 44th Livestock Feeders' Day, p. 3.

2. Barnhart, C. E., Ralph Overfield and S. J. Lowry. 1956. Value of Winter Pasture for Growing and Fattening Pigs. Annual Livestock Day, p. 40.

3. Barnhart, C. E., J. R. Oldfield, S. J. Lowry. 1957. Protein Supplements for Growing-Finishing Pigs in Drylot and on Alfalfa Pasture. Annual Livestock Day, p. 61.

4. Becker, D. E., S. W. Terrill and A. H. Jensen. 1958. Complete versus Free-Choice Rations for Swine. Mimeo. AS 478.

5. Beeson, W. M., J. H. Conrad, M. T. Mohler and T. W. Perry. 1956. Weight to Change from Complete Mixed Rations to Free-Choice Rations Both on Pasture and in Drylot. Mimeo. A. H. 185.

6. Catron, D. V. and associates. 1957. Iowa Swine Producers Day Mimeo.

7. Clawson, A. J. and E. R. Barrick. 1957. A Comparison of Free-Choice and Mixed Rations for Growing Swine Fed on Concrete or Pasture and Containing Different Combinations of Protein. A. I. Report 27.

8. Conrad, J. H. and W. M. Beeson. 1955. Free-Choice Feeding of Shelled Corn and Ground Corn Compared to Complete Mixed Rations for Swine. Mimeo. A. H. 156.

9. Conrad, J. H. and W. M. Beeson. 1957. A Comparison of Drylot and Pasture for Producing Pork Rapidly and Economically. A. H. Mimeo. 213.

10. Conrad, J. H. and W. M. Beeson. 1957. The Effect of Various Antibiotic Combinations and other Bactericidal Agents on Growing-Finishing Swine—Both Drylot and Pasture. A. H. Mimeo. 214.

11. Dinusson, W. E., M. R. Light, D. W. Bolin and M. L. Buchanan. 1953. Pelleting Makes Pork. North Dakota Bi-monthly Bull. 15:162.

12. Dinusson, W. E., P. A. Nystuen and D. W. Bolin. 1956. Pelleted Feeds for Swine. III. Effect of Crude Fiber and Kernel Plumpness of Barley. J. Animal Science 15:1256.

13. Dinusson, W. E. and D. W. Bolin. 1958. Comparisons of Meal Crumbles, Pel-

EXPELLER

SOYBEAN OIL MEAL
AND **PEASIZE CAKE**
43% PROTEIN — 4% FAT
The High - Fat, High - Protein, High - Energy
Basic Ingredient for All Feeds and
DOG FOOD RATIONS
PREFERRED by Feed Manufacturers from Coast to Coast
AVAILABLE in carloads and trucklots throughout the year from our centrally located plant
ILLINOIS SOY PRODUCTS COMPANY
SOYBEAN PROCESSORS
P. O. Box 53 SPRINGFIELD, ILLINOIS Phone 23391

ROADSIDE EGG VENDOR
Now Available on Time Payments

Here's an Egg Salesman who never sleeps. Yes, with the "T-LINE" EGG VENDOR you can get retail prices for your eggs which means an extra 10c per dozen profit. It's the way to turn your egg venture into a profit maker . . . if you are located on a well traveled highway near town or know of a good spot such as a gas station, large apartment building, parking lot, etc. The "T-LINE" EGG VENDOR is a proven unit. Fully automatic refrigeration and high humidity. Holds 112 dozen eggs in vending position plus refrigerated storage for an additional 120 dozen eggs. Write today for literature and time payment plan to TOBIAS ENTERPRISES, 236 North Michigan Avenue, Chicago 1, Illinois.

Profits are Better with *Marcol B-75*

√ for feed manufacturers
√ for broiler growers

MANUFACTURERS increase profit margins with Marcol B-75 because . . .
- Marcol B-75 gives 10% greater feed efficiency (Reported by Land Grant Colleges and commercial feeding operations.)
- Mixes three times faster than tallow
- Presents no setting-up problems due to cold weather
- Settles dust while mixing
- Will not deteriorate or become rancid
- Improves color and appearance of feed

BROILER GROWERS make more money with Marcol B-75 in your feeds because . . .
- Marcol B-75 helps produce market-size broilers faster
- More digestible than animal fats
- Improves feed palatability
- Will not carry-over into taste of broiler meat

NOW! Make more money for yourself and your customers by adding Marcol B-75, the best fat additive, to your feeds! Working samples available upon request.

GIVE YOUR CUSTOMERS THE BENEFIT OF
Marcol B-75
the modern Miracle in Agriculture
made exclusively by
MARCO CHEMICAL COMPANY
P. O. BOX 8 • FORT WORTH 1, TEXAS

Let's Ruin Another
COB CRUSHER

These little demons would certainly wreak havoc with an ordinary crusher, but *not this one!* It's the revolutionary *NEW* Anderson Cob Crusher proven in actual operation.

- DAMAGE PROOF • NO SHEAR PINS
- NO DOWN TIME • CLOG PROOF
- WEAR RESISTANT • HI CAPACITY
- LOW POWER CONSUMPTION
- VARIABLE PRODUCT SIZING

WRITE FOR INFORMATION: The Andersons MAUMEE, OHIO

CALL *Babe* or *Bob Stuart* for
★ MILL FEEDS ★ LINSEED MEAL ★ SOYMEAL
★ ALFALFA MEAL ★ SCREENINGS
RELIANCE FEED CO. FOR 30 YEARS Phone FR 2-3478 216 Phoenix Bldg. Minneapolis, Minn.

lets and Re-pelleting Feeds for Swine. North Dakota Bi-monthly Bull. 20:16.

14. Hanson, L. E. 1957. Some Recent Advances in Swine Nutrition. Proceedings of 5th Pfizer Research Conference, p. 19.

15. Hillier, J. C. and J. J. Martin. 1958. Mixed Rations vs. Free-Choice Feeding of Milo and Supplement for Growing and Finishing Pigs. Oklahoma State Misc. Pub. No. MP-51, p. 87.

16. Hoefer, J. A., E. C. Miller, Jr. and R. W. Luecke. 1956. How Should Hogs Be Fed. A. H. Mimeo. 1 (Swine).

17. Hoefer, J. A., E. C. Miller, Jr. and R. W. Luecke. 1957. Feeding Methods for Swine. A. H. Mimeo. 7 (Swine).

18. Hudman, D. B. and E. R. Peo, Jr. 1957. Protein Levels for Growing-Finishing Swine on Pasture and in Drylot. Nebraska Swine Progress Report No. 348.

19. Jensen, A. H. 1958. Cereal Grains in Rations for Growing-Finishing Swine—Rations Fed in Both the Meal and the Pellet Forms. Personal communication.

20. Kramer, Robert. 1958. What is Integration and Its Current Status. Proceedings of the 8th Annual National Institute of Animal Agriculture.

21. Lehrer, W. P., Jr. and T. B. Keith. 1953. Pelleted vs. Non-Pelleted Rations for Swine. Idaho Agri. Expt. Sta. Bull. 295.

22. McCormick, J. A. and J. F. Kidwell. 1953. Experiments in Feeding Hogs Alfalfa in Nevada. University of Nevada Cir. 2.

23. Robison, W. L. 1956. Swine Experiments 1955 and 1956. Ohio Animal Science Mimeo. series 101.

24. Terrill, S. W., A. H. Jensen and D. E. Becker. 1958. Pasture versus Drylot for Growing-Finishing Swine. Mimeo. AS 477.

25. Thomas, O. O. and A. E. Flower. 1956. The Value of Pelleting Rations for Swine. Montana State College Cir. 214.

26. Tribble, L. F. 1957. Pasture vs. Dry Lot Feeding of Growing-Fattening Swine. Missouri Swine Day Report.

27. Wallace, H. D., G. E. Combs, Jr. and C. E. Haines. 1957. Free Choice Feeding vs. A Complete Mixed Ration for Finishing Market Swine. An. Husb. Mimeo. Series 58-1.

28. Warner, D. R. and R. J. Meade. 1955. Free-Choice Feeding of Yellow Corn and Protein Supplements versus Feeding of Mixed Rations to Growing-Fattening Pigs on Alfalfa Pasture. Nebraska Swine Progress Report No. 330.

29. Warner, D. R. and R. J. Meade. 1955. Protein Supplements and Methods of Feeding Compared for Growing-Fattening Pigs Fed in Dry Lot. Nebraska Swine Progress Report No. 331.

30. Warner, D. R. and R. J. Meade. 1956. Rations for Growing-Fattening Pigs Fed on Alfalfa Pasture. Nebraska Swine Progress Report No. 335.

31. Vestal, C. M. 1949. The Influence of Exercise on the Rate and Economy of Gain of Market Hogs. Purdue A. H. Mimeo. 40.

Earl G. Cox

JOINS TEXAS FIRM—Earl G. Cox has joined the J. Paul Smith Co., Ft. Worth, and will engage in feed ingredient merchandising. Mr. Cox formerly was with Bewley Mills, Ft. Worth, and for some time was associated with the Commodity Credit Corp., first in the Kansas City and later in the Dallas office. (Ft. Worth Star-Telegram photo.)

Charlie R. Reyher, ADA Director, Dies

McCLAVE, COLO.—Funeral services were held recently for Charlie R. Reyher, owner of the Reyher Milling Co., McClave alfalfa dehydrating plant. Mr. Reyher, 54, died in a Pueblo hospital Aug. 15 where he had been under treatment for cancer for several months. He had been in ill health more than a year.

An active industry figure, Mr. Reyher was a director of the American Dehydrators Assn. at the time of his death. Associated with him in his business were his widow and his son, Russell. Mr. Reyher also had other business interests, including a trucking line and a turkey farm.

You Can Always Count on...
Easy Sales
Fast Turnovers
Good Profits With
PILOT BRAND
OYSTER SHELL

This ideal eggshell material is first choice of poultry raisers everywhere. Your customers know they can always depend on PILOT BRAND to help them get the most eggs with the strongest shells.

That's why feed dealers who stock and push PILOT BRAND can be sure of a steady, month-in-month-out business.

Cash in on this big demand. Concentrate on PILOT BRAND—the largest selling eggshell material in the world.

Order from your distributor . . . or write to us.

FOR POULTRY
PILOT BRAND OYSTER SHELL

Oyster Shell Products Company
Mobile, Alabama

Arbor Acres
Make sure
Your broilers come from
ARBOR ACRES females!

REMEMBER TO ORDER
CHASE BAGS
There's None Better!

Farm and Feed Salt NEWS

FROM INTERNATIONAL SALT COMPANY, INC.

Did you know?

- Since 1930, feed industry output as a whole has risen 175%. The industry is now producing at the rate of about 37,000,000 tons per year.
- Labor costs drop as dairy herds grow. USDA research shows farmers annually spend 129 man-hours per cow caring for a 10-cow herd. But a 30-cow herd needs only 80 man-hours per animal. Thus, a herd can be tripled in size, without even doubling labor costs.

4 benefits from using Sterling Blusalt in your fall feeds

Good results from your fall feeds are especially important. When customers see how well your feeds produce *at the start* of the feeding year, they'll rebuy regularly throughout the season.

One of the best ways to insure this heavy repeat business is to use Sterling trace-mineral Blusalt products formulated especially for feed mixing. You'll benefit in four distinct ways:

1. Correct trace-mineral balance. For better on-the-farm results, every Sterling Blusalt product contains the now-known correct amounts of 7 essential trace minerals (manganese, iron, sulfate sulfur, copper, cobalt, iodine and zinc) blended with salt, a natural carrier.

2. Can be used safely with vitamin-fortified premixes and feeds. The mineral compounds used in Sterling Blusalt products, under normal conditions, will not destroy the vitamin potency of the feed into which they are mixed.

3. Cut production costs. Whether you specialize in formula feeds or grist mixes, Sterling Blusalt products permit you to add both salt and vital trace minerals in *one* simple operation. No formula changes needed. Simply replace plain or iodized salt with one of the Sterling feed-mixing Blusalt products.

4. Technical service and research with your salt. At International Salt Company's Animal Nutrition Department, we do continuing research on the proper use of salt and trace minerals in modern livestock and poultry feeding programs. Results of this research are passed on to the feed trade in improved Sterling Blusalt products . . . and in comprehensive technical service on questions of feed mixing and feed formulas.

This research and service is yours to use *now* in preparing your fall feeds...or at any other time. Just ask your Sterling representative, or contact our nearest sales office.

INTERNATIONAL SALT COMPANY, SCRANTON, PA.

Sales Offices:

Atlanta, Ga.	Chicago, Ill.	Memphis, Tenn.	Philadelphia, Pa.
Baltimore, Md.	Cincinnati, O.	Newark, N. J.	Pittsburgh, Pa.
Boston, Mass.	Cleveland, O.	New Orleans, La.	Richmond, Va.
Buffalo, N. Y.	Detroit, Mich.	New York, N. Y.	St. Louis, Mo.

Service and research are the extras in STERLING SALT

PRODUCT OF INTERNATIONAL SALT COMPANY, INC.

MEMBER AMERICAN FEED afma MANUFACTURERS ASSOCIATION INC.

Turkey Federation Outlines Plans For Convention

MT. MORRIS, ILL.—Plans for the National Turkey Federation convention and Turkey Industry Exposition to be held Jan. 6-8 in Des Moines are taking shape rapidly, according to an announcement from federation headquarters in Mt. Morris.

Fifty representatives of the federation met in Des Moines recently to complete organization plans. The federation had been holding annual meetings since it was established in 1939, but the first full-scale convention was held in Des Moines in 1949. It was estimated that 3,000 persons attended.

A major change in the educational program of the convention will be the replacement of the "what's new" discussions of elementary turkey production and marketing which have been held in the past with semi-technical clinics and conferences. The new type of conference is designed "for modern, specialized turkey people who have a basic knowledge regarding turkey production and marketing and are more interested in the technical aspects of the newer developments," the announcement said.

Special federation committee meetings will be held Jan. 3-4. The general business meeting and the meeting of the board of directors will be Jan. 5. These gatherings will precede the general convention, which is scheduled to open with a luncheon Jan. 6.

Expanded for the 1959 convention will be the annual officers reception and open house the evening of Jan. 6. In addition to the usual reception of the past, a full program of entertainment has been planned.

A highlight of the ladies day program Jan. 7 will be a special fashion show at Younkers' store.

Discontinued at the 1959 convention are the exhibitors' night entertainment program and auctioning of prize-winning turkeys.

Changes planned for the turkey show call for entry of live birds rather than New York dressed in the "heaviest turkey" contest. The open class division of the dressed turkey show will be on the same basis as the 1958 convention, and special emphasis is being placed on the junior division of this event.

Aeration Installations

BOONE, IOWA — Installation of grain aeration systems continues to expand. This is indicated in a recent report from Rolfes Grain Aeration Companies, Boone, Iowa, telling of 51 installations in seven states—Illinois, Iowa, Kansas, Nebraska, North Carolina, Oklahoma and Texas.

Missouri Egg Day To Be Held Sept. 5

COLUMBIA, MO.—Egg production will be given special emphasis at the Missouri Egg Day to be held Sept. 5 at Columbia, Dr. E. M. Funk, chairman of the University of Missouri poultry department, has announced.

Speakers for the program will be University of Missouri staff members, a U.S. Department of Agriculture statistician and poultry producers from Missouri.

The USDA speaker is Edward Karpoff, who writes the USDA poultry and egg outlook report. He will discuss likely egg production areas of the future.

Missouri's future in egg production will be outlined by Elmer Kiehl, University of Missouri agricultural economist. Other speakers on the program include Q. B. Kinder, Dr. A. B. Stephenson and Glenn Geiger of the University of Missouri College of Agriculture and extension service staffs.

Researchers Isolate Tung Meal Toxins

WASHINGTON — The first step toward finding a commercially practical method to detoxify tung meal, a potentially valuable feedstuff, has been reported by Agricultural Research, a publication of the U.S. Department of Agriculture.

The publication said scientists at the southern utilization division of the USDA in New Orleans have succeeded in isolating two toxins from the meal. This is the first step in finding a commercially practical method of detoxification, the publication said.

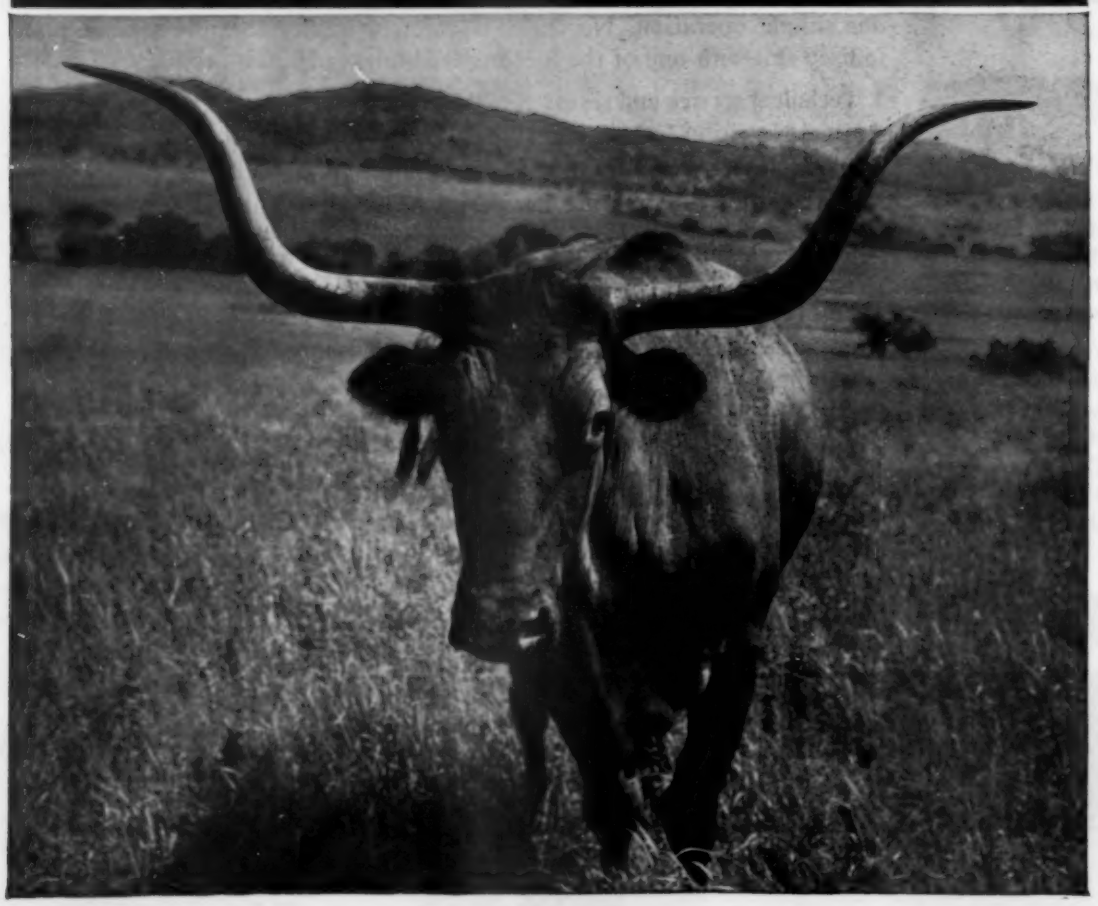
The meal contains 22-25% protein, but it is highly toxic to animals and poultry. Little use has been found for the meal except as a fertilizer.

One of the toxins is insoluble in organic solvents and is easily detoxified by heat, the publication said. The other is extractable by many organic solvents and is comparatively stable.

REACH FOR THE SCHENLEY CORN DISTILLERS DRIED GRAINS, PARDNER!

I wish my folks had known about Schenley Farm Feed Products. I am an almost extinct longhorn steer in the Wichita Mountains. My advice to other animals who do not want to share my fate: Use SCHENLEY CORN DISTILLERS DRIED GRAINS. They are specially processed to retain all nutritional values, are palatable to the animal, are an established ingredient in dairy feeding, are fairly and realistically priced.

Schenley Distillers Inc.
FARM FEED DIVISION
26 East Sixth Street
Cincinnati 2, Ohio
Telephone MAin 1-3170



ELAM
GRAIN COMPANY
Complete line of grains and soft feeds
Processors and handlers of brewer's grains
St. Louis elevator... 2,500,000 bushels capacity
Call St. Louis
OLive 2-5550

NEW! POTENT! PROFITABLE!

for sweeter sales and sweeter feeds...

Natico
DRY
Feeding Cane
MOLASSES
Product

MORE THAN
48%
SUGAR!

AVAILABLE FOR IMMEDIATE SHIPMENT FROM PHILADELPHIA, PA., AND GRETNA, LA.

Remember, something wonderful happens when you add NATICO!

Pass the word along to your customers—*add* NATICO to feed; *subtract* dollars from feeding costs! NATICO is the new, dry all molasses product—*no carriers, no fillers*—with a guaranteed 48% sugar content that adds attractive color and fragrance to feed. Even makes dry, home-grown grains and roughages tasty. Packed in easy-to-handle 50-lb. bags, NATICO is economical to buy, profitable to sell.

FOR BEEF AND DAIRY CATTLE, SWINE, POULTRY

Natico

Product of
THE NORTH AMERICAN TRADING & IMPORT COMPANY
World's Largest Importer of Cane Molasses
1429 WALNUT STREET • PHILADELPHIA 2, PA.

MIDWEST SALES AGENT—The North American Trading and Import Co., 101 Arsenal St., St. Louis, Mo. Tel.: PRospect 6-0858

Camera Views of the News

BACIFERM SALES MEETING—Representatives of the production, research, technical service and quality control departments of Commercial Solvents Corp., New York, joined district managers and salesmen in attending the annual Baciferm sales meeting held recently in Peoria, Ill., by the animal nutrition department of the company. Participating were: Standing (left to right)—M. T. Walton, H. C. Bragdon, F. J. Klatte, John Recker, R. O. Cox, B. F. Nachtman, R. Mitchell, R. C. Klussendorf, E. F. Grassl, Garth Thomas, W. R. Tait, Wilbur Keko, R. W. Breidenbach, Loy Everett, Larry Schaeffel, Norman Stark, J. T. Craig, J. H. B. Marple. Seated (left to right)—K. E. Mansfield, R. D. Thomas, L. C. Hastings, N. L. Bell, James Scott, I. R. Cohen, N. A. Lentine, V. K. Fuller, R. B. Brown, J. V. O'Leary.

GETS "GOOD WILL EGG"—Accepting a "good will egg" from Miss EGGtober during her recent visit to the Poultry & Egg National Board's headquarters in Chicago is Dr. A. William Jasper, right, director of the PENB division of egg promotion. Looking on (center) is Herbert L. Schaller, manager of agricultural public relations for Chas. Pfizer & Co. Miss EGGtober is Susan Treet, a sophomore at the University of Connecticut. Dr. Jasper said the EGGtober promotion is a month-long campaign during October to increase consumer demand at the time when this year's egg marketing will be heaviest. Cooperative promotion efforts include the development of October recipes using eggs and Rye-Krisp by PENB and Ralston Purina Co. and a program by Chas. Pfizer & Co. of centering advertising plans around the EGGtober promotion.

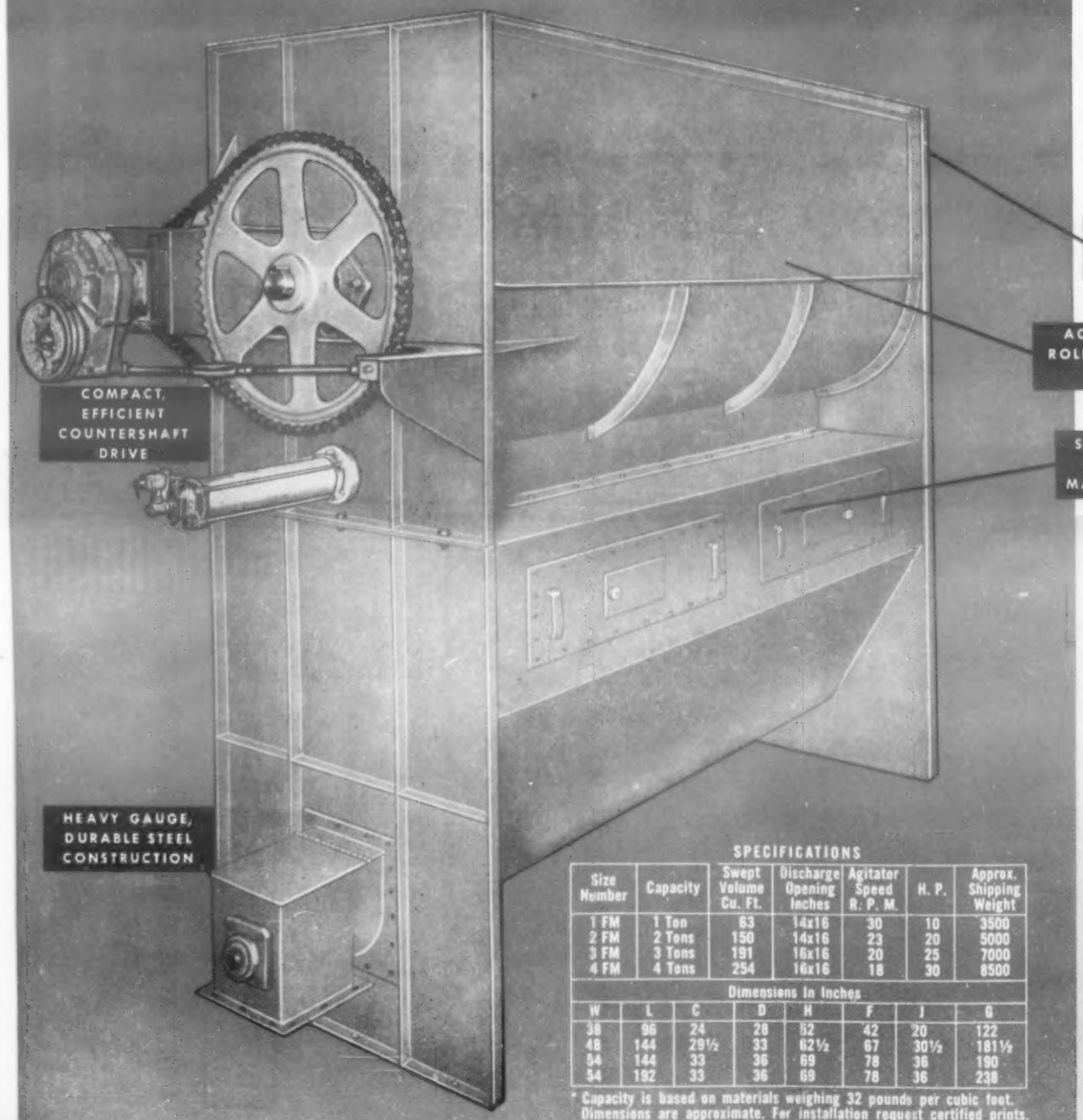
FILM DEPOSITED WITH LIBRARY—Dr. J. H. Bruckner, right, head of the poultry husbandry department, Cornell University, and newly elected president of the Poultry Science Assn., is shown accepting on behalf of the James E. Rice memorial poultry library the first motion picture film deposited with the library. The presentation was made by John P. Frank, Mt. Airy, N.C., president of the Granite Grit Institute of America, at the association's recent annual meeting. The x-ray portions of the sound motion picture film, "The Inside Story of a Chicken Gizzard Grinding," were photographed at the University of Rochester.

FINAL PLANNING—Checking on final plans for the 11th World's Poultry Congress are Robert L. Hogue, coordinator for the U.S. Congress committee; Dr. Gabriel Atristain, auxiliary secretary, Mexico City; Ing. E. A. Zillalobos, associated with Decorex S.A. (company building the exhibit for the U.S. Department of Agriculture), and H. H. Alp, chairman of the U.S. committee. The Congress will be held in Mexico City Sept. 21-28. The USDA exhibition will be in the National Auditorium in Chapultepec Park.

KENT CONTEST WINNER NAMED—Otis Joiner, vice president and general manager of Kent Feeds, Inc., Muscatine, Iowa, left, is shown as he presented the keys of a new 1958 truck recently to Frank H. Bohnenkamp, Marcus, Iowa. Mr. Bohnenkamp was the top winner in a recent Kent Feed-Matic Plant contest which marked the opening of the company's new plant in Sioux City, Iowa. The girl in the photo is Miss Jo Muller, featured performer in an ice show which was appearing in Sioux City. At right is Heinie Brandes, Kent dealer at Remsen, Iowa. Over 100 prizes were awarded in the contest. Registration for the contest was at the plant or with a local Kent dealer.

BURROWS SALES SESSION—The sales force of Burrows Equipment Co., Evanston, Ill., is finishing up an all-day sales session in this picture. Left to right are Bill Jacquemin; Warren Jones; Bob Hogan; Bill McCoy; Abie Polstra, vice president; Bob Sickel; Parks Burrows, president; Ted Hobson; John Wastcoat, sales manager; Jim Lyons, operations manager; Charley Polstra, Dean Sweet and Bill Grayson.

A new concept in Feed Mixing


COMPACT, EFFICIENT COUNTERSHAFT DRIVE
HEAVY GAUGE, DURABLE STEEL CONSTRUCTION
STANDARD DOUBLE RIBBON AGITATOR
ACCURATELY ROLLED BOTTOM PLATES
SURGE BIN FOR RAPID, AUTOMATIC BATCHING

SPECIFICATIONS

Size Number	Capacity	Swept Volume Cu. Ft.	Discharge Opening Inches	Agitator Speed R. P. M.	H. P.	Approx. Shipping Weight
1 FM	1 Ton	63	14x16	30	10	3500
2 FM	2 Tons	150	14x16	23	20	5000
3 FM	3 Tons	191	16x16	20	25	7000
4 FM	4 Tons	254	16x16	18	30	8500

Dimensions in Inches							
W	L	C	D	H	F	J	G
38	96	24	28	52	42	20	122
48	144	29½	33	62½	67	30½	181½
54	144	33	36	69	78	36	190
54	192	33	36	69	78	36	238

* Capacity is based on materials weighing 32 pounds per cubic foot. Dimensions are approximate. For installation request certified prints.

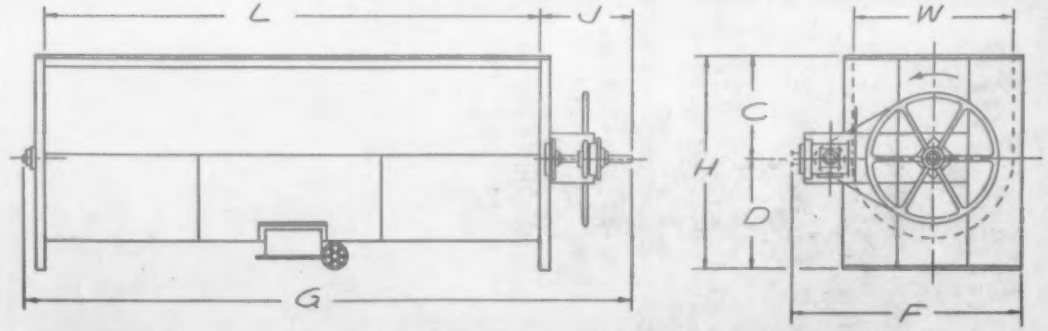
SPROUT-WALDRON

"FM" Feed Mixers

Here is a line of standard horizontal batch mixers developed exclusively for the feed milling industry. Economical to operate, built for trouble-free performance, and low in first cost, every Sprout-Waldron "FM" Feed Mixer is designed for rapid yet thorough mixing and is equally adaptable for medium and lower capacity feed processing plants as well as the high production plants.

This line of fast-acting mixers was specifically designed to conform with modern methods of feed manufacturing and the complete details of construction and performance of the "FM" are available in Sprout-Waldron's Bulletin 112-A. Write for your copy today.

SPECIFICATIONS — Standard "FM" Mixer Only



SPROUT-WALDRON

The Best in Processing Equipment Since 1866

MUNCY, PENNSYLVANIA, U.S.A.

Modern equipment for Size Reduction • Size Classification • Mixing and Blending • Bulk Materials Handling • Pelleting and Densifying

Exclusive Canadian Distributors: Strong-Scott, Limited, Winnipeg
Exclusive Australasian Distributors: Jaybee Engineering, Pty., Limited, Dandenong, Victoria, Australia

SS-101

Worth Looking Into

New Products
New Services
New Literature

This reader service department announces the development of new and improved products, new services and new literature offered by manufacturers and suppliers. Claims made in this department are those of the firm concerned. Use the accompanying coupon to obtain the desired information.

No. 7139—Rotary Batch Mixers

Specifications on several models of rotary batch mixers that will mix materials of varying specific gravities and minute or trace quantities has been announced by Munson Mill Machinery Co. in a new brochure. Described are the mixing principle of rotary batch mixers, the internal spray pipe now available for introduction of liquids, the heat transfer system and other specifications. Accessories are also described. The folder contains two charts of the two basic types, No. 4 and No. 7 showing their mixing capacity in cubic feet. The folder is available by checking No. 7139 on the coupon and mailing it to Feedstuffs.

No. 7140—Hammer Mill Bulletin

Manual and electric mechanisms for changing hammer mill screens by remote control while the mill is in operation are described in bulletin 110-A prepared by Sprout, Waldron & Co., Inc., The bulletin describes and illustrates the Paymaster hammer mills available for 60, 75, 100 and 125 h.p. motors. Various installation arrangements are illustrated and full details are given on three types of products collecting systems. A table of specifications and a template drawing are also included. Copies of the bulletin are available by checking No. 7140 on the coupon and mailing it to Feedstuffs.

No. 7132—Dairy, Poultry Folders

Two folders entitled "Planned Poultry Health" and "Planned Dairy Health" have been prepared by Hess & Clark, Inc. The dairy health folder lists a 10-point mastitis control program and information about the use of Nitrofurazone in dairy cow health. Treatment of coccidiosis with Nitrofurazone and information about roundworm and louse control are provided in the folder about poultry health. Check No. 7132 on the coupon and mail it to secure details.

No. 7181—Steel Buildings in Color

Complete details about a pre-engineered steel building in color, using a new vinyl-aluminum protective coating, are contained in a brochure entitled "Stran-Steel Buildings in Factory-Applied Stran-Satin Color." Buildings are being offered in color coatings of blue, green, bronze, rose gray and white, as well as in the standard metal finish. The brochure may be secured by checking No. 7181 on the coupon and mailing it to this publication.

No. 7179—Copy Board Handbook

"How to Use Changeable Copy Boards Most Profitably" is the title of a 32-page pocket-size handbook published by Wagner Sign Service, Inc. Subjects in the handbook include advantages of using copy boards as a merchandising tool, storage of letters, planning and writing copy, applying copy to the board and changing copy. A list of 678 slogans is included in the book. Check No. 7179 on the coupon and mail it to secure details.

No. 7133—Vitamin Supplement for Pets

A new vitamin and mineral supplement for dogs, cats and other fur-bearing animals has been put on the market by Agricultural Products Co., a division of Nutrilite Products, Inc. Nutripet is the brand name of the supplement, which is designed to be fed by sprinkling on the regular ration or by mixing with the regular food. Recommended feeding rate is ½ teaspoonful per day for each 15 lb. of body weight. There are 14 vitamins and 14 minerals included in the supplement which has a nutrient base of a specially processed extract of alfalfa, bone meal, kelp, yeasts and liver. The product is being sold through pet food dealers. Check No. 7133 on the coupon and mail it to secure details.

No. 7180—Bulk Shipping Container

The Ohio Boxboard Co. is producing a corrugated bulk shipping container that holds up to one ton of dry, free-flowing material. Called "Pillar-Pac," the container holds as much material as forty 50-lb. bags, it is claimed. The container is square and of self-palletized construction,

enabling handling by fork lift truck. The container has a bursting strength of up to 500 lb., is approved for rail shipment and is reusable. Check No. 7180 on the coupon and mail it to secure details.

No. 7138—Prefabricated Grain Bin

A prefabricated grain storage bin has been introduced by The Parkersburg Rig & Reel Co. for installation either inside or outside mill buildings. It is supplied as a package unit complete with all structural members to elevate hoppers to any height. Bins are designed for either 35-lb. or 50-lb.-per-cubic-foot feeds or whole grains and are erected in multiples, or clusters, two or more wide by two or more long in 6-ft. and 8-ft. square sizes. Arrangement is from a single tier to 10 tiers high. Clusters can be arranged for gravity fill and withdrawl. The bins are ready to assemble and require no tie rods or welding. Bins are available with both

Send me information on the items marked:

- ☐ No. 7132—Poultry Folders
- ☐ No. 7133—Vitamin for Pets
- ☐ No. 7138—Grain Bin
- ☐ No. 7139—Batch Mixer
- ☐ No. 7140—Bulletin
- ☐ No. 7146—Clean-Up Cart
- ☐ No. 7179—Handbook
- ☐ No. 7180—Bulk Container
- ☐ No. 7181—Steel Building In Color

(PLEASE PRINT OR TYPE)

Others (list numbers) .....

NAME .....

COMPANY .....

ADDRESS .....

CLIP OUT—FOLD OVER ON THIS LINE—FASTEN (STAPLE, TAPE, GLUE)—MAIL

FIRST CLASS PERMIT No. 2
(Sec. 34.9, P. L. & R.)
MINNEAPOLIS, MINN.

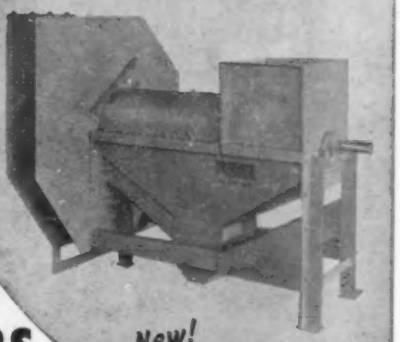
BUSINESS REPLY ENVELOPE
No postage stamp necessary if mailed in the United States

POSTAGE WILL BE PAID BY—

Feedstuffs
P. O. Box 67,
Reader Service Dept. Minneapolis 1, Minn.

Want Faster Corn Shelling and Lower Cost Operation?

Specify TRIUMPH Zip COB BLOWING CORN SHELLERS



New! Triumph No. 500 CORN SHELLER

More Universally used by Feed Mills than any other make Sheller.

TRIUMPH ZIP Cob Blowing Corn Shellers are modern machines developed to simplify the shelling and cleaning of corn, and the handling of cobs, for Feed Mills. With TRIUMPH, faster shelling rates are possible, with less first cost and lower operating costs.

Although simple in design, they contain many exclusive features developed by TRIUMPH engineers. TRIUMPH Zip Cob Blowing Corn Shellers are easy to apply and to operate . . . but capable of handling any condition of ear corn brought to Feed Mills, efficiently and fast. Maintenance, breakdown, and chokings are reduced to a minimum assuring lowest cost operation.

Thousands of TRIUMPH Zip Cob Blowing Corn Shellers are in use in Feed Mills everywhere. Their popularity is soundly based on proven performance and results.

TRIUMPH Engineers and Distributors offer years of experience in handling ear corn and designing corn shelling systems . . . a plus value gained only through buying TRIUMPH.

No. 100
Ideal for Smaller Feed Mills
Simple, Dependable, Efficient
6 to 8 tons per hour.*

No. 150
Designed for use on Mobile Feed Mills or other portable uses
6 to 8 tons per hour.*

No. 300
Fast Shelling for Larger Mills at low first cost
13 to 18 tons per hour.*

No. 500
New Rugged Sheller for Heavy Shelling Requirements
18 to 22 tons per hour.*

*Shelling rate based on tons per hour of machine picked ear corn.

TRIUMPH CORN SHELLERS
THE C. O. BARTLETT & SNOW CO.
6249 HARVARD AVENUE • CLEVELAND 5, OHIO

GET FULL DETAILS. *Write for the catalog today.*

45° and 60° center discharge or offset hoppers with 12-in. slidegate. Get further information by checking No. 7138 on the coupon and mailing to Feedstuffs.

No. 7146—Clean-Up Cart

The "janitorial" clean-up cart manufactured by the Screw Conveyor Corp. permits sweeping refuse or spillage directly into the cart—no shoveling is necessary. Featuring all-

welded steel construction, the body of the cart measures 18x18x18 in. and is flared to facilitate loading and emptying. Other features include reinforcing ribs in sides and ball bearing wheels with rubber tires. Check No. 7146 on the coupon to get details.

Also Available

The following new products have been described in previous issues of Feedstuffs and information about them may still be obtained by jotting the appropriate number on the coupon and forwarding it to Feedstuffs.

No. 7073—Pork program, Ranger Equipment Co.

No. 7074—Fabric cement, Val-A Co.

No. 7075—Research chemicals, Dow Chemical Co.

No. 7076—Antibiotic booklet, Commercial Solvents Corp.

No. 7077—Fly spray, Pratt Laboratories, Inc.

No. 7078—Overhead electric truck hoist, Jacobson Machine Works.

No. 7079—Grain chart changes, Seedburo Equipment Co.

No. 7080—Dealer promotion for pig scours product, Dr. Salsbury's Laboratories.

No. 7081—Grain and seed treater, O K Manufacturing Co.

No. 7082—Feed processing equipment folder, Barnard & Leas Manufacturing Co., Inc.

No. 7083—Screen change attachment, Schutte Pulverizer Co.

No. 7084—Corn crusher, Triumph Division, C. O. Bartlett & Snow Co.

No. 7085—Continuous waterer, Oakes Manufacturing Co., Inc.

No. 7086—Polyethylene film bags, Chippewa Plastics, Inc.

No. 7087—Barley grader, S. Howes Co., Inc.

No. 7088—Bag packer fact folder, H. L. Stoker Co.

No. 7089—Hammer Mill design, Sprout, Waldron & Co., Inc.

No. 7090—Plastic nipple bottle, Albers Milling Co.

No. 7091—Antiseptic, Specifide, Inc.

No. 7092—Grub control chemical, Dow Chemical Co.

No. 7093—Taste "Engineering" service, Taste Engineering, Inc.

No. 7094—Transport mixing wagon, Brower Manufacturing Co.

No. 7095—Vitamin-antibiotic product, Peter Hand Foundation.

No. 7096—Crop drying fan, Chicago Blower Corp.

No. 7097 — Continuous flow grain drier, Hess Co.

No. 7098—Defluorinated phosphate product, Coronet Phosphate Co.

No. 7099 — Pneumatic conveying systems, Fuller Co.

No. 7100—Folder on calf, pig feed ingredient, Merck & Co., Inc.

No. 7101—Dairy cleaner in reusable pail, B-K Department, Pennsalt Chemicals Corp.

No. 7102—Twines, Columbian Rope Co.

No. 7103—Baler twine, Columbian Rope Co.

No. 7104 — Antioxidant brochure, Eastman Chemical Products, Inc.

No. 7105—Dust collectors, Kirk & Blum Manufacturing Co.

No. 7106 — Pneumatic conveyor bulletin, Dracco Division, Fuller Co.

No. 7107—Antibiotic feed supplement, Merck & Co., Inc.

No. 7108—Farm-route feed milling system, Daffin Manufacturing Co.

No. 7109 — Piperazine phosphate, Chemo Puro Manufacturing Co.

No. 7110 — Bulk concentrate carrier, Champion Portable Mill Co.

No. 7111—Automatic checkweigher, Toledo Scale Co.

No. 7112 — Terramycin metering device, Chas. Pfizer & Co., Inc.

No. 7113—Poultry disease booklets with cartoon illustrations, Dr. Salsbury Laboratories.

No. 7114—Forage machine, Albers Milling Co.

No. 7115—Poultry feed antioxident, Eastman Chemical Products, Inc.

No. 7121—Grain scattering and

Fleischmann's F·I·D·Y
IRRADIATED DRY YEAST
RICH IN VITAMIN D FOR FOUR-FOOTED ANIMALS

FEED SAVE WAY FEEDS
SAVE WAY FEED MILLS
CHICKASHA, OKLAHOMA
Branch Locations:
BROKEN ARROW, OKLAHOMA • HICO, TEXAS
PILOT POINT, TEXAS • FORT WORTH, TEXAS

THE WESTERN FEEDLOTS REPORT . . .

"FROM A FASTER START TO A FINER FINISH,

FEED 'EM DYNAFAC!"

"You can almost see them growing . . . those slick hair coats and big briskets are what I like . . . no scours at all since we started feeding Dynafac . . . man, what a difference in feed costs!"

These are the comments being made by feedlot operators all over the West. They have proved it to themselves...and so can you...that feeding Dynafac gives bigger profits. That is because it takes less feed per pound of gain.

Operators report good results using both Dynafac and hormones, either oral or implant. Each additive works in its own way to give you improved efficiency. Not a hormone, Dynafac remains in the intestinal tract to do its job—controls harmful bacteria and fungi without disturbing beneficial organisms in the paunch.

Dynafac costs less than a penny a head per day! Feeders tell us they get their best weight gains and feed conversion feeding this low-cost additive at the 2-gram-per-head-per-day level.

You, too, can make bigger profits by feeding Dynafac. Why not get it into your feed now?

ARMOUR AND COMPANY, CHICAGO, ILLINOIS

Dynafac is distributed nationally for Armour by the Chemical Department, McKesson & Robbins, Inc. Write us for further information.

NOW..! LOAD or UNLOAD BULK FEED

with the PAMCO BACK SAVER

Attach this inexpensive AUGER UNIT to a grain box and you can handle any feed in bulk!

- Ideal for hoist trucks
- Complete hydraulic operation
- Can load as easily as unload
- Will handle bulk feed grain or pellets
- Minimum breakage of pellets

Conversion units can be mounted on your present grain box.

For Complete Information Write:

PRODUCTIVE ACRES MFG. CO.

KEOTA, IOWA **PHONE: ME 63071**

OTHER INSTALLATION POINTS: Delphi, Indiana; Cheraw, Colorado, and Portland, Oregon

blending device, Seedburo Equipment Co.

No. 7125—Vibratory feeder, 10-ton per hour capacity, Eriez Manufacturing Co.

No. 7126—Standard valve bag packer, E. D. Coddington Manufacturing Co.

No. 7127—Grain dryer with capacity of 75-300 bu. per hour, Lennox Industries, Inc.

No. 7128—Coated abrasive finishing paper for sanding, Armour Coated Abrasives Division, Armour & Co.

No. 7129—Pneumatic conveyor bulletin, Morse Bougler Destructor Co.

No. 7130—Metal laying nest for light breed layers, Oakes Manufacturing Co., Inc.

No. 7131—Flexible loader, R. T. Sheehan Co.

No. 7134—Grain sample divider, Burrows Equipment Co.

No. 7135—Polyethylene plastic bag for feed, Spencer Chemical Co.

No. 7136—Egg vendor, Tobias Enterprises.

No. 7137—Portable bagging scale bulletin, Richardson Scale Co.

No. 7141—Air-Slide pump trailer, Fruehauf Trailer Co.

No. 7142—Pneumatic conveying article, Sprout, Waldron & Co., Inc.

No. 7143—Bag conveyor bag closer, Dave Fischbein Co.

No. 7144—Cob blowing corn sheller, Triumph Division, C. O. Bartlett & Snow Co.

No. 7145—Twin-hook hoist carrier, Cleveland Tramrail Division, Cleveland Crane & Engineering Co.

No. 7147—Aureomycin guide booklet, Agricultural Division, American Cyanamid Co.

No. 7148—Hog programming chart, Ranger Equipment Co.

No. 7149—Baled hay grinder, Barnard & Leas Manufacturing Co., Inc.

No. 7150—Granular phosphate leaflet, Coronet Phosphate Co.

No. 7151—Automatic bag printer, Industrial Marking Equipment Co.

No. 7152—Settler for bag packers, H. L. Stoker Co.

No. 7153—Bulk storage tank, Butler Manufacturing Co.

No. 7154—Cob bin unloader, Thoro-Speed Corp.

No. 7156—Poultry disease guide, Dr. Salsbury's Laboratories.

No. 7157—Automatic flat drop machine for testing filled multiwall bags, St. Regis Paper Co.

No. 7158—Grain fumigant pump, Tryco Manufacturing Co., Inc.

No. 7159—Pneumatic bulk truck with 9-in. screw conveyor, Sprout, Waldron & Co.

No. 7160—Portable pump for grain fumigants, Douglas Chemical Co.

No. 7161—Bulk feed unit, Seco, Inc.

No. 7162—Basic pneumatic handling systems for bulk materials, Fuller Co.

No. 7163—Literature on buildings, Steel Structures, Inc.

No. 7164—Pneumatic bulk trailer, Albert Air Conveyor Corp.

No. 7165—Bagging scale bulletin, Richardson Scale Co.

No. 7166—Grain aeration system, Monroe Grain Aeration Co.

No. 7167—Agricultural films, American Cyanamid Co.

Midwest

FRESH

SWEET-DRIED WHOLE WHEY

THE FINEST QUALITY WHEY FOR CALF AND PIG FEEDS

UNIFORM

LOW ACIDITY

HIGH LEVEL OF LACTOSE*

LOW ASH

*The Natural Milk Sugar which is the Carbohydrate of choice for all Baby Animals.

Midwest DRIED MILK COMPANY

DUNDEE
ILLINOIS
PHONE
HAzel 6-3411

"From the Cow to Your Feed Bag, and Kept Sweet All the Way"

Blatchford's ESTABLISHED IN 1900

NEW FORTIFIERS for LOWER FEED COST!

new **BROILER**

Vitadine

"Power packed" with high levels of all essential nutrients including antibiotics, Arsanilic Acid, UGF, Vitamins and Trace Minerals.

new **STARTER**

SWINEX WITH **DYNAFAC**

New Growth and Anti-Scours Agent

WRITE TODAY For Complete Report on These New Fortifiers! DEPT. 288

Blatchford's ESTABLISHED IN 1900

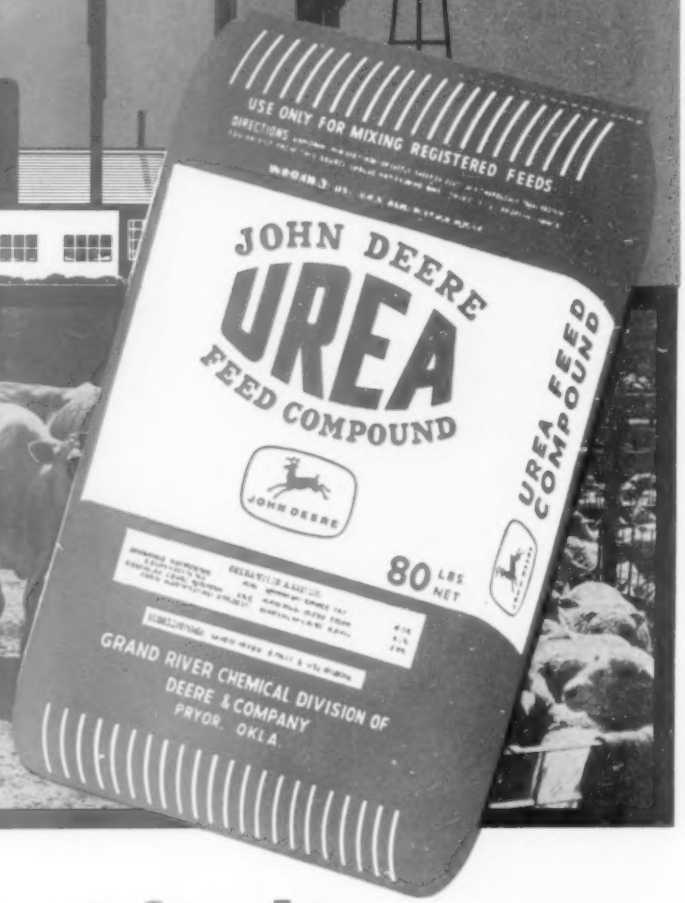
Main Plant and Offices WAUKEGAN, ILL. | Midwest Plant Des Moines, Iowa | West Coast Division Nampa, Idaho

I read FEEDSTUFFS every week. I'm wise to FEED INDUSTRY Happenings

JOHN DEERE QUALITY

FEED GRADE

UREA



For *modern* ruminant feeds...

Make your cattle and sheep feeds earn more profit with John Deere Urea Feed Compound. You will profit because: It's an economical source of protein . . . it makes a higher quality, more nutritious feed that promotes better roughage digestion in the rumen . . . and because it is equivalent to 262% protein, it leaves room for additional minerals, vitamins and energy in your feeds.

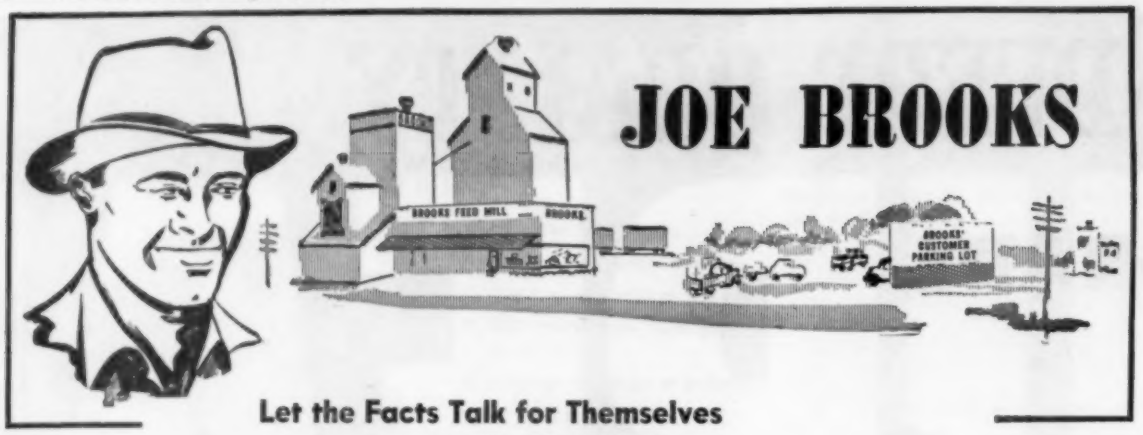
Only the very highest quality feed urea is produced by John Deere in one of the world's most modern plants.

You can expect and get delivery when you want it. Write or phone today!

JOHN DEERE

Grand River Chemical Division of
DEERE & COMPANY

PRYOR, OKLAHOMA • PHONE VAlley 5-2000



Let the Facts Talk for Themselves

By Al P. Nelson

In Joe Brooks' spacious salesroom there were numerous wall displays of merchandise, and center area islands. There were also some platform display units on which were stacked many bags of feed and block salt and other large sized items.

Also, about twenty feet from the central area wrap counter, there was a rest area, which contained a small card table, hard back chairs, a wicker settee, several magazine racks and also a sawdust filled "chaw" box.

Farmers could sit and rest here, if they wished. Also the retired men of the town often came here, for here they could meet other men and talk the way men talk. Later when the retired men went home, they felt as if they could endure for another day the small talk of their wives about hair-do's, pimples, grey hair, chemises, "I wonder how the grandchildren are" and similar talk.

Grandpa Hodgkins and his cronies liked to frequent this "rest corner." Here the problems of the town, the county, the nation and even the world were discussed and settled. The new and the old, the weaknesses and virtues of human character, these too were analyzed and commented upon. And the more the discussions the more filled became the "chaw box."

A Human Element

Joe was a modern type feed dealer, with sparkling store, but the rest corner and the "chaw box" were the humanizers. "Joe ain't gone high falutin altogether," one old retired farmer said. "You can still find a place to spit at his store without gittin' up out of your chair."

On this hot August morning, with two ceiling fans cascading air down upon them, the gathered old timers, interspersed by a few active farmers resting for a moment, had something to talk about.

"How can a man sit up these hot nights and make signs like that?" queried one old timer. "That Joe is never quiet. He needs some of those sleepy pills, all right."

"You mean tranquilizers," another retired man said. "Somebody was telling me the other day a farmer went to a weddin' and when he came back home at night both his cows and his hired man was sleepin'. Seems the hired man had given the cows tranquilizin' shots and then taken one himself to see how they worked."

"I don't believe in overdosin' yourself," another oldster said. "Somebody said blackstrap molasses was good for-you-know what—so I took a half cupful. Criminy! I couldn't sit still all day long. Had to keep gettin' up all the time."

"Joe never lets stuff well enough

Mr. Gene Lane, Utility Operator, at the Central Soya Co., Inc., Chattanooga, Tenn. plant, operates 36 Merchen Scale Feeders that blend feed ingredients to 1% accuracy.

MERCHEN SCALE FEEDERS

"give us accurate, continuous blending over a wide feed range"

Central Soya Co., Inc., blends millions of bags of animal and poultry feed a year at their new Chattanooga plant. Up to 50 different formula feeds are produced to exacting standards. Central Soya chose W&T Merchen Feeders because they give 1% minute-to-minute accuracy over a wide feed range. As seen in the picture, the feeders are compact—with no bulky enclosures.

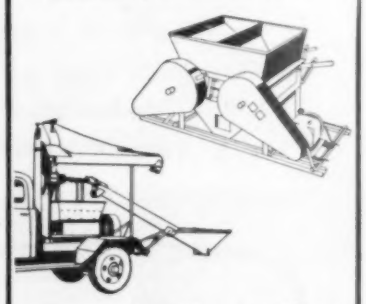
Merchen Scale Feeders, with feed rates from 3 to 3000 pounds per minute, require no adjustment for changes in material density. They are suited for most industrial continuous blending or automatic batching processes. For more information about Merchen Scale Feeders, write for Bulletin M-35.36.

WALLACE & TIERNAN INCORPORATED
25 MAIN STREET, BELLEVILLE 9, NEW JERSEY

TRY THE COLUMBUS heavy duty industrial ROLLER MILL AT OUR EXPENSE!

Endorsed by grain dealers, the Columbus heavy duty Roller Mill will roll all grains. Superior design, sturdy construction for years of profitable service.
Four sizes—300 bushels, 600 bushels, 900 bushels, 1200 bushels per hour, with or without electric motor.

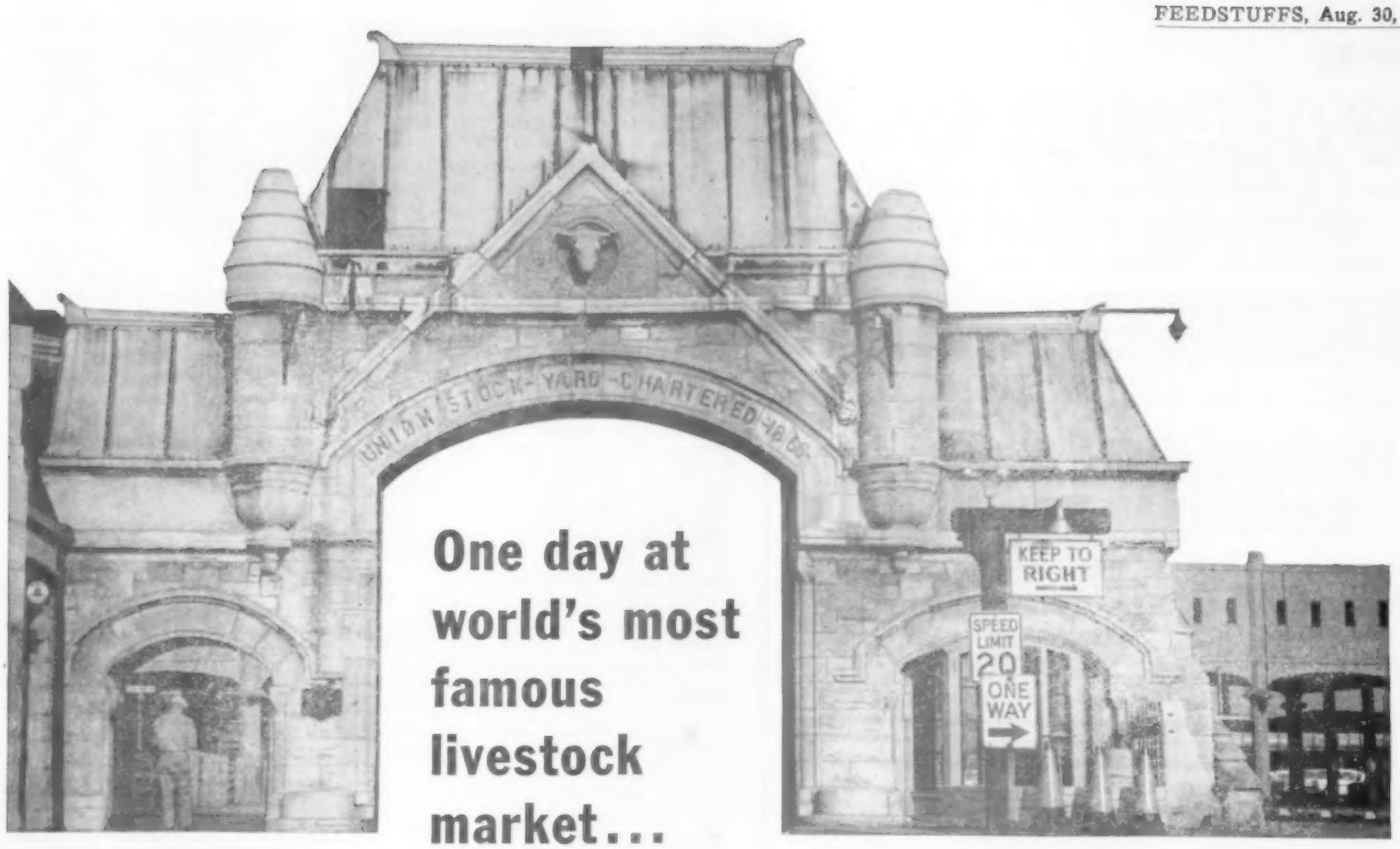
TWO MODELS:
Stationary or truck mounted.



Operate the mill 10 days. If not satisfied, return it. WE WILL REFUND YOUR MONEY AND PAY RETURN FREIGHT.

WRITE FOR PRICES

HENKE MANUFACTURING CO.
Columbus, Nebraska



One day at world's most famous livestock market...

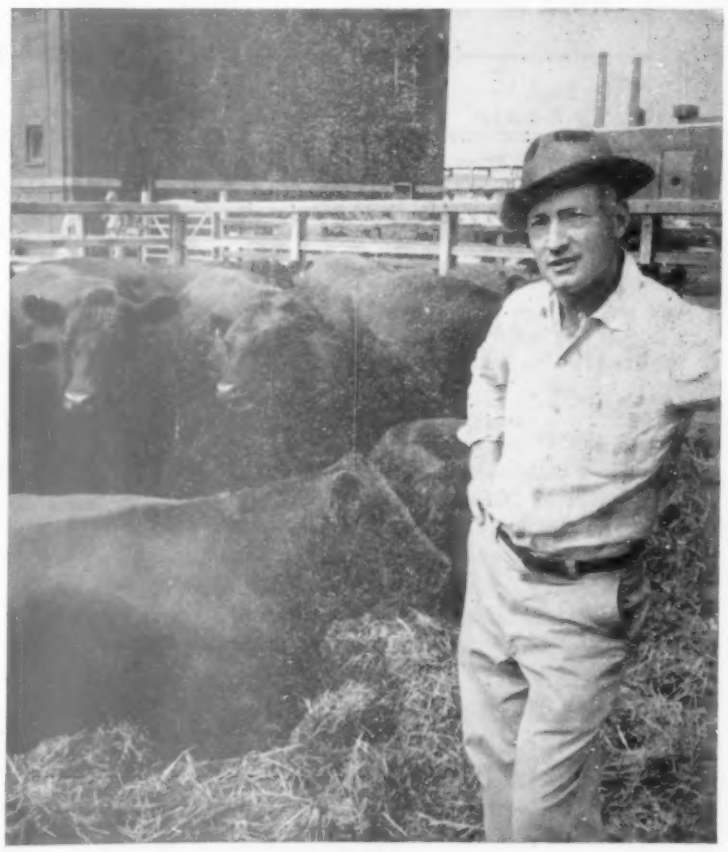
by Eugene S. Hahnel

Union Stock Yards, Chicago —This is the end of the line, the pay-off. Here's where buyer and seller butt heads. Here's where *price* is born!

We dropped by the yards one drizzly June morning to watch cattle sell. We especially wanted to talk to feeders who had fed 'Stilbosol.' How did they feel about it . . . a few minutes after their cattle sold? We visited them at their pens to find out.

Here's how 'Stilbosol'-fed cattle did...

Jerry Rogers, Sandwich, Ill. Jerry's 20 fine Angus steers topped the market at $32.00. They graded prime and the buyer estimated they'd dress 64%. "I don't think a person can afford to feed without it. I got ½ lb. more daily gain. Buyers like my cattle. They go East, and buyers always come back after more."



Donald Wright, Sugar Grove, Ill. Donald's all-heifer load brought $27.50, close to top for heifers that day. "This is my first year feeding 'Stilbosol' supplement. Had some yearlings that weren't gaining too well. Put them on 'Stilbosol' supplement and gains picked right up. Began using 'Stilbosol' to get more gain on less feed like your ads say. It works, too. It really can be the difference between profit and loss."

Lloyd Nelson, Boone, Iowa. "I'd hate to do without 'Stilbosol' in my supplement. It often makes the difference between profit and loss when margins are thin. Cattle are quieter, and put on about ¼ to ½ lb. extra daily gain. Cuts cost about 10 to 15%." Mr. Nelson estimated his cattle to average 1200 lbs. They averaged 1293 lbs. and sold near the top of the market.

Clarence Youngren, Harcourt, Iowa. "This was the first bunch of cattle I ever fed. I figured I'd better start off right and that seems to include using supplement with 'Stilbosol.' We got an increase in gain, better finish and lower cost of gain over what I expected." Clarence estimated his cattle at 1050 to 1075 pounds. The weight slip showed 1110 pounds.

ELI LILLY AND COMPANY, AGRICULTURAL AND INDUSTRIAL PRODUCTS DIVISION, INDIANAPOLIS 6, INDIANA

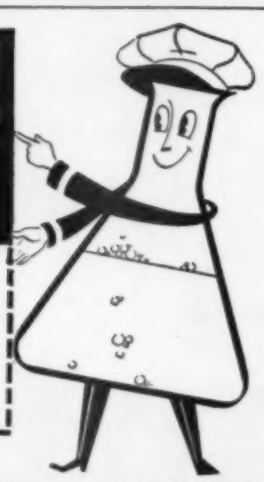
MAKERS OF **'Stilbosol'** (Diethylstilbestrol Premix, Lilly) • *Vitamin B_{12}* • *Procaine-Penicillin-G*
'Hygromix' (*S. Hygroscopicus* Fermentation Products, Lilly)

FORTIFIED
FISH SOLUBLES
WITH MINIMUM 25% FISH GLANDULAR AND LIVER HYDROLYSATE ADDED
+ the Plus Factors
GUARANTEED "ALL YEAR" SUPPLY
Producers and Brokers
R. S. WILSON CO.
1206 MAPLE AVE. • LOS ANGELES 15, CALIF.

J. H. LEFTWICH & CO., Inc.
BLACKSTRAP MOLASSES
Phone HEmlock 2-8771 Mobile, Ala. P.O. Box 78
Savannah, Ga. Jacksonville, Fla.
New Orleans, La. Corpus Christi, Texas
Tuscaloosa, Ala. Nebraska City, Neb.
Shipments by Rail Tank Car, Truck Transports and Barge

Gilbert Jackson
BOARD OF TRADE BLDG., KANSAS CITY 5, MO.
EARL GARRATT—BOB KIVETT, ASSOCIATES
COMPANY, INCORPORATED
Phone BA 1-0337
TWX KC-252
All Feed Ingredients
A Nationwide Service from the Heart of America

SOLULAC
70% corn distillers solubles
30% corn distillers grains
PRODUCED AND AVAILABLE EVERY WEEK OF THE YEAR



GRAIN PROCESSING CORPORATION
MUSCATINE, IOWA Telephone AMherst 3-1321 TWX495
Primary Fermentation Products
Riboflavin — Vitamin B-12 — GP-101, source of whey and other unidentified growth factors
© 1957

alone," complained one oldster. "On that sign there he says that the U.S. Department of Agriculture says farm wives workin' at outside jobs earned $920 million in 1957. Do you believe that?"

"No, I don't. Those government fellers are always stretchin' things. How could they know what all them women was doin'? And who made the meals on those farms and did the housework?"

"Joe's sign says the workin' farm women did that work somehow when they got home. And some had kids to help."

"Huh," grumbled an oldster, "that's the trouble with the world. It's too speeded up. People oughta take it easier—like us."

"It's a different world than when we was young," came back his neighbor. "Farmin' is changing. Wives of big scale farmers don't need to work in town, but wives of small farmers do, to make ends meet."

"So what?" declared a lean retired farmer. "What's the difference where the money comes from? To me this workin' out means that the small farm kin still stay in business, if the owners wanna live on farms."

Another oldster shook his head. "Phooey, Jim. Talk sense. Why with this integration stuff comin' the small farmer ain't got a chance. When the big boys start raisin' meat type hogs, the old type of fatty hog the small farmers raise won't sell."

"Well, cracky, the small farmer kin then raise the meat type hog, too. What's the matter with you?"

"He can, but he won't."

The other snorted. "Don't you kid yourself. And if the egg buyer wants eggs of a certain grade the small producer can produce 'em, if he makes up his mind to it. If he wants to stay on a farm part time, he can do it."

Too Much Labor

"But he can't buy feed in volume. And he'll have too much feed handling labor with his flock and cows."

"You sure must have gotten out of bed on the wrong side this mornin'. The small farmer, the man with 80 acres or more uses enough ground feed so he can have it delivered bulk into a bulk bin or tank on his farm. Or right into a metal or wooden feeder for his hogs or cattle. So 80 acres isn't enough for him to farm full time. He and his wife can both take part time jobs part of the year."

"Yeah, but no marketing agency is gonna sign up a small acre farmer when he can get big scale farmers on his side."

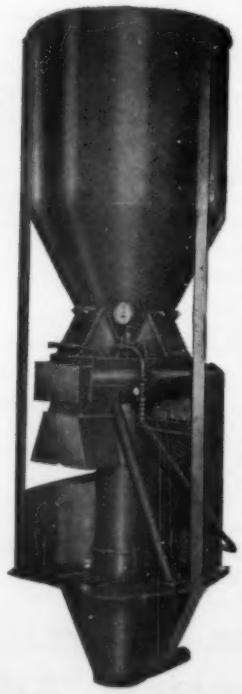
"Then let the little fellers have their own marketing agency. Let them raise hogs and poultry, etc., jest the way the big fellers do, according to market requirements. Have you sold out to the big guys?"

"I have not. I'm only talking sense. All these figures Joe has got here prove it."

"They do not. Joe's figures on these signs show there is room for both big and little farmers if they'll farm and feed well. Don't you know how to read signs? Look here. We got 750,000 FFA trained boys in the nation, this copy says, and 15,000 in our state. All these boys want to be farmers. Some will be big scale operators, and others will have smaller farms. They'll know more about farmin' than we did. They farm the way it ought to be done—not jest guesswork like you and me did."

A tall, lanky farmer came out of the mill section. He was chewing on something. "You know," he said. "them pellets from Joe's new pellet mill taste better every day. If they keep on tastin' like this, I'm not goin' to have to buy anymore chewin' tobacco. Well, who wants to play a game of dominoes? You guys look all talked out."

YOU SAVE 1 2 3 WAYS
WITH THIS SECO
COMBINATION FEED MIXER | MOLASSES MIXER
You save on SPACE . . . you save on ORIGINAL COST . . . you save on OPERATION COST—all three!
And you have all the features of the SECO Vertical Mixer—together with the many advantages of the SECO Molasses Mixer—the mixer that cleans itself!
Easily installed . . . adaptable to any plant operation ... engineered for maximum production in minimum space . . . with big capacity (up to 4 tons per hour). Can be operated with electricity, tractor or single power unit.
WRITE FOR COMPLETE INFORMATION
SECO inc.
GOODLETTSVILLE, TENNESSEE
Seco offers to the feed industry experienced mill Planning, Engineering and Manufacturing Service on equipment needs—including complete mill installations. Your inquiries are invited.



Your best way to burn refuse!

Burns refuse from 3000 bushels of corn per hour . . .
COMPARE!
- Much faster.
- Safer, often lowers insurance rates.
- Burns more completely.
- Feeds automatically.
- Seldom requires cleaning.
- Blower speeds burning of damp refuse.
- Needs no watchman.
- Saves moving refuse far from plant for burning.
- Passes safety and Forest Service requirements.
- Only Rees Burners are proven for grain-mill refuse.

Built With 40 Years of Experience
Unconditionally guaranteed better than other burners of this type. A Rees Burner costs much less than you think. Mass production for such firms as Quaker Oats, Long Bell Lumber Co., Ford Motor Co., and many others makes the price quite low. Your plant labor can easily erect a Rees Burner in a few days. No crane needed. We will manage construction, if desired.
FREE! Send for illustrated literature
Rees Burner & Blowpipe Co.
205 So. Front St.
Memphis, Tenn.
Please send me information on the Rees burners.
Name..... Position.....
Firm.....
Address.....
REES BLOWPIPE MANUFACTURING CO.
BERKELEY, CALIF. MEMPHIS, TENN.
VANCOUVER, CANADA

DU PONT TESTS SHOW

Methionine supplementation improves the efficiency of high-energy laying rations

17-WEEK and 56-WEEK TESTS prove value of Methionine

Tests were conducted with 1,200 birds at a large commercial farm

17-WEEK TEST

Feed efficiency: lbs. feed/lbs. egg produced

Pre-experimental treatment (4 weeks) on common diet	**3.99**	**3.80**	**3.81**	**3.68**
	#1 Ration 16.5%protein 922 cal./lb.	#2 Ration #1 with 0.05% methionine added	#3 Ration 16.5% protein 1009 cal./lb.	#4 Ration #3 with 0.05% methionine added
Experimental Period (13 weeks)	**4.50**	**4.17**	**4.43**	**3.83**
Change	**0.61**	**0.37**	**0.62**	**0.15**
Effect of Methionine (lbs. of feed saved)	—	**-0.14**	--	**-0.47**

56-WEEK TEST

Feed efficiency: lbs. feed/lbs. egg produced

	3.58	**3.66**	**3.65**	**3.41**
	#1 Ration 15.6% protein 991 cal./lb.	#2 Ration #1 with 0.05% methionine added	#3 Ration 14.9% protein 1096 cal./lb.	#4 Ration #3 with 0.05% methionine added
Effect of Methionine (lbs. of feed saved)	—	**-0.08**	—	**-0.24**

Two tests conducted by Du Pont on 1,200 birds at a large commercial poultry farm in New Jersey show that methionine added to high-energy diets improves the feed efficiency of egg production.

In a 17-week exploratory test, the basal diet supplemented with methionine produced a pound of eggs on *0.14 pound less feed* than when unsupplemented. When the energy level was increased about 10%, the advantage due to methionine more than tripled. (See box left.) A 56-week test confirmed these findings.

In both experiments, the increase in energy content was without effect until additional methionine was supplied to diets—demonstrating that methionine is the first limiting amino acid for egg production in ordinary feed mixtures.

Furthermore, mortality was lower in all diets containing supplemental methionine. Hens receiving unsupplemented high-energy rations gained more body weight than those fed lower-energy feeds. This gain was considerably reduced when methionine was added. For a complete report on these tests and the rations used, write the Du Pont district office nearest you.

AND NOW...

Du Pont Research brings you HYDAN—a new, lower-cost source of methionine

Over the past 10 years, Du Pont has made many contributions to raising better poultry. In pioneering the methionine energy concept, Du Pont gave poultry nutritionists a new tool for measuring adequate nutritional balance. More recently, this concept has been expanded to include the nutritional requirements of laying hens.

"Hydan," the latest Du Pont achievement, is a new source of methionine that contains 90% active ingredient and costs substantially less than other methionine products previously available. Now the best way to obtain an effective protein in today's poultry rations—at the best possible cost—is to use new "Hydan" as your source of supplemental methionine activity.

"Hydan" is the latest result of Du Pont's continuing research in feedstuffs to help all poultry raisers boost efficiency, cut costs and thereby increase profits. You can get lower-cost "Hydan" by contacting the Grasselli Chemicals District Office nearest you.

DU PONT
REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY

Hydan
trademark
feed supplement

DISTRICT OFFICES: ATLANTA 8, GA., 739 W. Peachtree St. • CLEVELAND 14, OHIO, 1321 National City Bank Building
HOUSTON 25, TEXAS, 1100 E. Holcombe Boulevard • MINNEAPOLIS 2, MINN., 1207 Foshay Tower • PALO ALTO, CALIF., 701 Welch Road
WYNNEWOOD (PHILA.), PA., 308 E. Lancaster Ave. • IN CANADA: Du Pont Company of Canada (1956) Limited, P. O. Box 660, Montreal, Quebec

your order
SHIPPED
the day
RECEIVED
when you buy from
SEEDBURO
THE WORLD'S LARGEST SUPPLIER OF
GRAIN TESTING & GRADING EQUIPMENT
Call ANdover 3-2128 Collect for
the best quality—the right price and
the fastest delivery

SEEDBURO EQUIPMENT COMPANY
Dept. FS2 618 W. Jackson Blvd., Chicago 6, Ill.

WILHOIT LABORATORY
Will Protect Your Quality
Complete analysis service on your
FEEDS and FEED INGREDIENTS
Serving the industry since 1915
619 Flour Exchange FE. 3-2994 Minneapolis 15, Minn.

CONVENTION CALENDAR

New Listings

For the convenience of readers who scan the Convention Calendar regularly for new listings, those added to the columns in the current week appear ahead of the ones which have been entered previously. The following week they will be moved to their proper slot where they will remain until the event is held.

● ● ●

Sept. 9—Florida Swine Field Day; University of Florida, Gainesville; sec., Dr. T. J. Cunha, Animal Husbandry and Nutrition Department.

Sept. 11—Minnesota Swine Feeders Day, St. Paul Campus, University of Minnesota; chm., Dr. Lester Hanson, Animal Husbandry Department. (Listing published previously included incorrect date.)

Sept. 11—Michigan Cattle Feeders Day; Michigan State University, East Lansing; sec., Dr. George Branaman, Animal Husbandry Department.

1959

Feb. 11-12—Feed Mill Production School; Leopold Hotel, Bellingham, Wash.; sponsored by Washington State Feed Assn.; mgr., J. G. Wilson, 814 Second Avenue Bldg., Seattle, Wash.

● ● ●

Sept. 5—Ohio Swine Day; Ohio Agricultural Experiment Station, Wooster, Ohio; chm., Dr. L. L. Rummell.

Sept. 5—Missouri Swine Day; University of Missouri, Columbia; Dr. Leland Tribble, Animal Husbandry Dept.

Sept. 7-9—Grain & Feed Dealers National Assn., Sheraton-Jefferson Hotel, St. Louis, Mo.; exec. v.p. Alvin E. Oliver, 600 Folger Bldg., Washington 5, D.C.

Sept. 7-9—Louisiana Poultry Improvement Assn.; Jung Hotel, New Orleans, La.; sec., Clyde Ingram, University Station, Baton Rouge, La.

Sept. 8-9—Minnesota Animal Nutrition and Health Short Course;

(Continued on page 63)

CALENDAR FOR 1958-59

SEPTEMBER

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

OCTOBER

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

NOVEMBER

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

DECEMBER

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

JANUARY

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

FEBRUARY

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

MARCH

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

APRIL

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

MAY

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

JUNE

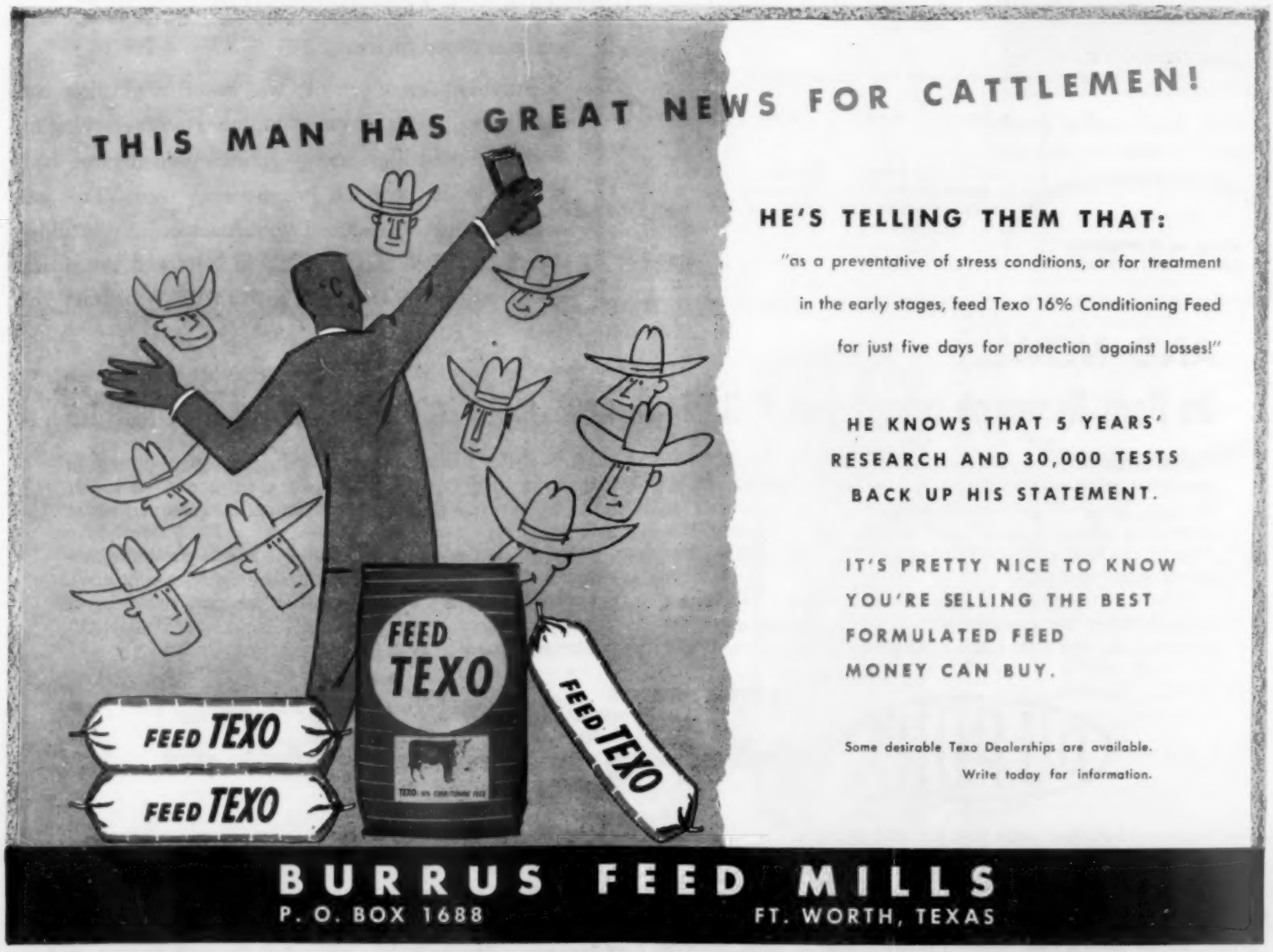
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

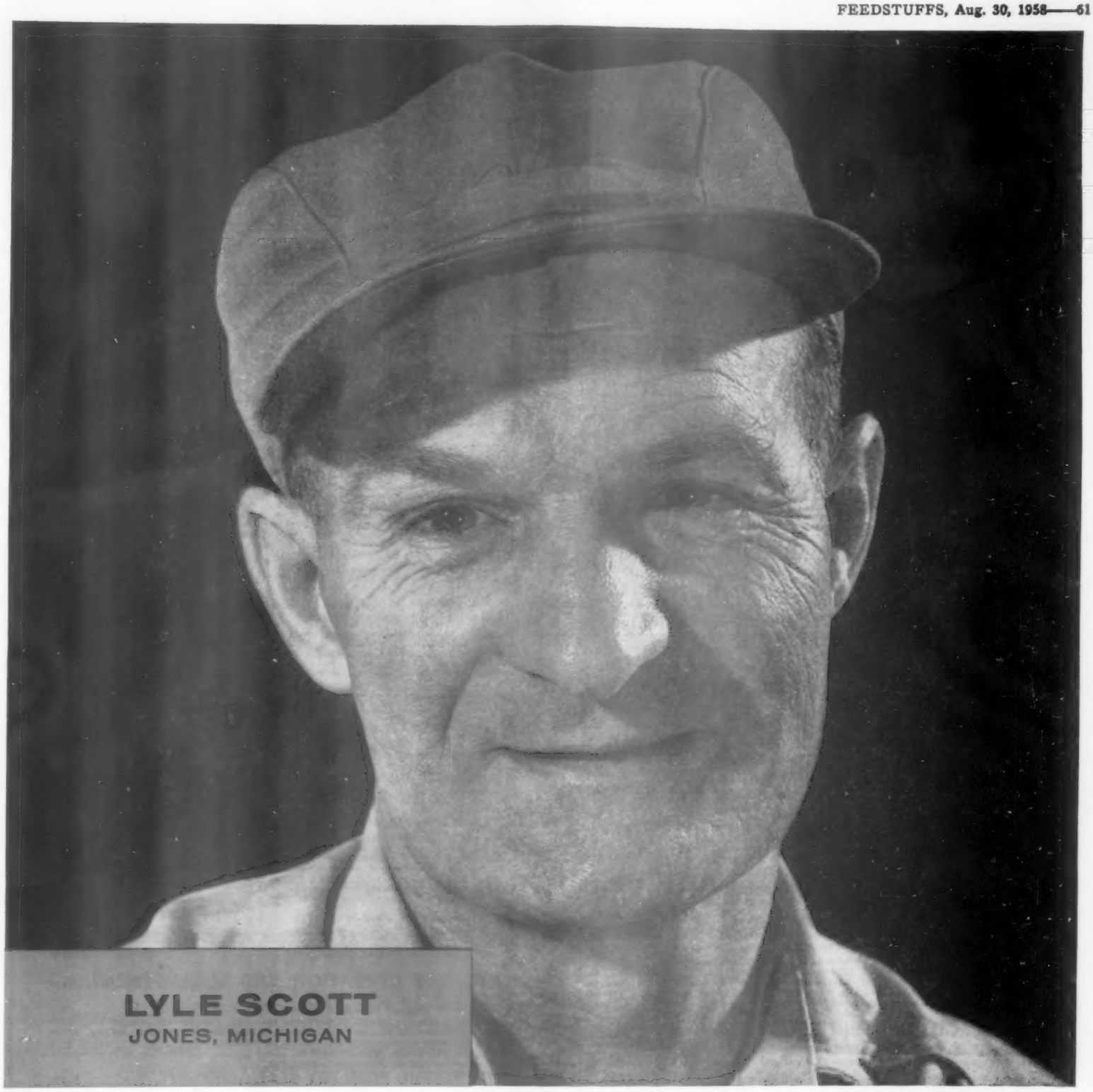
JULY

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

AUGUST

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					


THIS MAN HAS GREAT NEWS FOR CATTLEMEN!
HE'S TELLING THEM THAT:
"as a preventative of stress conditions, or for treatment in the early stages, feed Texo 16% Conditioning Feed for just five days for protection against losses!"
HE KNOWS THAT 5 YEARS' RESEARCH AND 30,000 TESTS BACK UP HIS STATEMENT.
IT'S PRETTY NICE TO KNOW YOU'RE SELLING THE BEST FORMULATED FEED MONEY CAN BUY.
Some desirable Texo Dealerships are available.
Write today for information.
FEED TEXO
FEED TEXO
FEED TEXO
FEED TEXO
BURRUS FEED MILLS
P. O. BOX 1688
FT. WORTH, TEXAS



"85% of the salt I sell is Morton Trace-Mineralized"

Almost 85 lbs. out of every 100 lbs. of livestock salt sold by Mr. Scott, manager, Jones Farmers Cooperative, is Morton T-M Salt. Such a record of T-M sales over plain salt sales is outstanding. Therefore, we asked Mr. Scott to write an open letter to all salt dealers telling just what he does to promote T-M Salt. Here is his advice:

"We believe in T-M and would like to see our farmers use it 100% in their feeding programs . . . and some day we may reach that goal. At any rate, with about 85% of our tonnage in T-M now, we are making good progress.

"We like to sell T-M for free choice feeding even when formula feeds or home-mixed grains containing trace minerals are fed. We sell it as insurance against mineral deficiencies that can throw a feeding program off balance . . . which, of course, would hurt the farmer and our business," states Mr. Scott.

You, too, can sell T-M Salt to increase business. If you already handle Morton T-M Salt, take a leaf from Mr. Scott's book and you will increase both your business and your profits. Recommend Morton T-M to your customers. If you don't handle T-M but would like to, just write Morton Salt Company, Chicago, Illinois.

BEST ADVERTISED—BEST KNOWN!
As a Morton dealer your T-M sales effort is backed by consistent, down-to-earth advertising in leading farm and ranch publications. Radio sales messages also tell farmers and ranchers everywhere the benefits of using T-M Salt. Listen to the Alex Dreier radio show, "Topic for Today," every Saturday immediately following the "Farm and Home Hour."

MORTON T-M SALT

The Feed Man's Library

Reader Service Department

Feedstuffs

FEEDS AND FEEDING, 22nd Edition

By Frank B. Morrison and Associates

Feeds and Feeding has again been entirely revised, because of the many discoveries made in nutrition and livestock feeding. In this 22nd edition, particular emphasis is placed on the new developments. The numerous experiments are summarized which have dealt with antibiotic, arsenic and surfactant supplements, and with hormones, including stilbestrol. Full information is given concerning requirements of various classes of stock for the vitamins, including B and the unidentified factors. The Appendix Tables are enlarged by 40%, with composition and digestible nutrients of 1,100 feeds **$9.50**

ANIMAL NUTRITION, 4th Edition (1956)

By Leonard A. Maynard

It covers the standard, constantly-needed facts on feeding farm animals, and also the newly discovered facts about how certain acids, minerals, vitamins, etc., can help in raising healthier, more productive animals. 474 pages, 77 illustrations and tables **$7.50**

BEEF CATTLE, 4th Edition

By Roscoe R. Snapp

Covers breeding, feeds, feeding, economic trends, equipment, etc. Includes a report of hundreds of feeding experiments. Has a special chapter on sterility by Dr. Harry Hardenbrooks, Jr., assistant professor of veterinary medicine, University of Illinois. 641 pages **$6.50**

USE OF ANTIBIOTICS IN AGRICULTURE (1956)

Proceedings of the First National Conference

Held under the Auspices of the Agricultural Board and the Agricultural Research Institute, National Academy of Sciences, National Research Council, Oct. 19-21, 1955. Foreword by L. A. Maynard, chapters are sessions, presided over by C. F. Huffman, Damon Catron, H. D. Branion, J. G. Hornfall and W. W. Spink. A collection of scientific papers and panel discussions by leaders in the field **$2.50**

RAISING LIVESTOCK

By Walter H. Peters and G. P. Deyoe

This book provides the owner, manager or caretaker of farm or ranch with easily found, specific suggestions for solving problems confronted in producing, handling and managing livestock, including preparing for market, selecting, feeding, housing, breeding and marketing influences. It tells of the many jobs to be done and exactly how to do them. 519 pages, 240 illustrations..... **$7.50**

DAIRY CATTLE FEEDING and MANAGEMENT, 4th Edition

By H. O. Henderson and Paul M. Reaves

Based on the original work by Carl W. Larson and Fred S. Putney. Expanded 10%, the Fourth Edition adds new chapters on minerals and vitamins, and much recent material on hay-crop silage, grass land farming, dairy cattle health programs, and digestion in the rumen and milk secretion. Designed for use profitably by the student and the practicing dairyman. 614 pages..... **$6.50**

DAIRY CATTLE—Selection, Feeding and Management, 4th Edition (1955)

By W. W. Yapp and W. B. Nevens, Agricultural Experiment Station, University of Illinois

Part 1—Dairy Farming; Part 2—Selection and Breeding; Part 3—Feeding; Part 4—Managing; Part 5—Financial Aspects; Part 6—Milk Secretion; Care and Merchandising; Part 7—Producing Roughages; Part 8—Providing Good Buildings; Part 9—The Future of Dairying. A recognized text of great value to all engaged in dairying, especially to students..... **$4.75**

SWINE SCIENCE, 2nd Edition (1957)

By M. E. Ensminger, Ph.D., State College of Washington, Head Department of Animal Science

A complete yet easily understood reference for swine feeders, breeders and those in auxiliary services to them. Covers history and development of the industry, its distribution, adaptation and future; types and breeds, establishing the herd, meat type breeds, selection and judging, breeding, feeding, grains and high energy feeds, protein, vitamin and milling by-product feeds, pastures, buildings and equipment, health and disease prevention, marketing and slaughter, management and showing. 543 pages, 198 illustrations..... **$5.00**

SWINE FEEDING AND NUTRITION (1957)

By T. J. Cunha, Department of Animal Husbandry and Nutrition, University of Florida

A new text for feeders, teachers of animal husbandry and their classes, county agents, nutritionists and workers in veterinary pharmaceuticals. Dr. Cunha is head of the Department of Animal Husbandry, a member of the Nutrition Committee of the American Society of Animal Production and the Swine Nutrient Requirements Committee of the National Research Council. The book includes reports on the most recent scientific feeding studies on swine. 360 pages, 47 tables, 40 illustrations **$5.00**

SWINE PRODUCTION, 2nd Edition (1956)

By W. E. Carroll and J. L. Krider

A guide to organization, establishment, management, feeding and marketing operations in raising of hogs. 496 pages, 65 illustrations..... **$7.00**

RAISING SWINE—

By George P. Deyoe

A practical swine raiser's handbook. Stock selection, record keeping, feeding, care and handling, marketing techniques and preparing pork for home use. 447 pages, 201 illustrations, 40 tables **$6.95**

THE HANDBOOK OF FEEDSTUFFS (1957)

By Rudolph Seiden and W. H. Pfander

An encyclopedic presentation of production, formulation and medication. Designed to increase feed efficiency, explaining thousands of terms. Valuable to ranches and farms in production of feeds from right crops, utilization of plant as pasture, silage, hay, etc., and as an officially recognized feed product (meal, bran, grit, cake, etc.). Explanations and practical advice on medicated feeds, mineral feedstuffs, trace elements, growth stimulants and chemicals of importance to stockmen and poultry growers. Useful to feed manufacturers, nutritionists, students of animal biology, etc. 800 pages, 175 illustrations, cloth binding **$8.00**

THE STOCKMAN'S HANDBOOK (1956)

By M. E. Ensminger, M.S., M.A., Ph.D.

Intended for stockmen, those who counsel with stockmen and for teachers in animal agriculture. First 120 pages particularly of interest to feed trade, as breeding and feeding of livestock are covered. Other chapters have to do with judging, management, marketing, etc. The 1956 edition is the fourth printing, indicating strong demand for this guide. 598 pages, well illustrated, many tables. A practical handbook **$8.50**

MANAGING FOR GREATER RETURNS in Country Elevator and Retail Farm Supply Businesses

By Richard Phillips, Iowa State College economist

Written as a basic reference book for elevator and farm store managers, this book includes valuable information on over-all planning and management. Some of the topics included are planning for maximum business efficiency, use of an effective accounting system, increasing employee productivity, improving customer relations, improving purchasing, management of credit and operation of custom services. 500 pages **$7.00**

SCIENTIFIC FEEDING OF CHICKENS (1955)

By Dr. H. W. Titus

A small but absolutely authentic and concise treatment of vital information for feeders and feed manufacturers. 43 formulas for diets and mashes, vitamin content of over 60 feedstuffs; what feedstuffs are best, deficiency diseases; also relationship between feed consumption and egg production. 297 pages, hard binding **$4.00**

THE GRAIN TRADE: How It Works (1956)

By James S. Schonberg, Vice President, Uhlmann Grain Company

A comprehensive book on the mechanics of merchandising and trading in cash and grain futures in the U.S. and Canada. Tells of what happens to grain following its purchase from the farmer, how it is graded, stored and conditioned, the establishing of price even before the crop is planted, the role of the university professor in the grain trade. This authoritative book will become the leading reference book on this subject for farmers, county agents, legislators, foreign buyers, government personnel, teachers, etc. **$6.00**

FEEDING POULTRY, 2nd Edition

By Gustave F. Heuser, Professor, New York State College of Agriculture, and the School of Nutrition

Meets the needs of poultry producers, feed dealers and poultry students for the latest authoritative information on how to raise the best poultry by employing modern feeding methods. It evaluates findings on the value of feeds, types of feed to be used and nutritive economy. Deals with feeding and management for various purposes, chicks, breeders and egg producers. 633 pages.... **$7.95**

POULTRY NUTRITION, 4th Edition Revised and Enlarged

By W. Ray Ewing

1,500 pages, 133 illustrations, of practical, factual information for feed manufacturers, feed dealers, hatcherymen, breeders. New chapter on antibiotics, new growth charts, feed formulas for rapid growth..... **$12.50**

POULTRY HUSBANDRY, 3rd Edition

By Morley A. Jull

526 pages, 254 illustrations, covers all aspects of the poultry business, from planning and building poultry plant to preparing poultry products for market. Breeding techniques, feeding procedures, disease control, incubation; it is an "encyclopedia" of poultry raising..... **$6.50**

POULTRY PRODUCTION—

By Leslie E. Card, Ph.D.

Eighth Edition, 416 pages, 216 illustrations and four plates. Deals with broiler production, flock management and marketing, breeding and selection, nutrition, disease control, etc. **$5.00**

HATCHERY OPERATION AND MANAGEMENT

By Ernest F. Funk and M. Richard Irwin

New, 1955; a practical guide to hatchery operation for the experienced and inexperienced. Covers all phases of the business, including advertising, selling, office procedures, labor costs, equipment, chick selection, sexing, etc. 250 pages, well illustrated **$7.50**

SUCCESSFUL POULTRY MANAGEMENT, 2nd Edition

By Morley A. Jull

467 pages, 186 illustrations, based on practical experience, brings practical helps for choosing breeds, increasing broiler and egg production, building range shelters, estimating egg output, buying feed, candling eggs, etc. **$5.75**

KEEPING CHICKENS IN CAGES, 4th Edition (1956)

By Roland C. Hartman, Editor Pacific Poultryman and Dale F. King, Dept. of Poultry Husbandry, Alabama Polytechnic Institute

A thorough revision of this reliable work on cage laying plants. Newly illustrated and broadened in scope with addition of Professor Dale F. King as co-author. More about feeding-results of experiments with caged layers. The importance of protein and energy levels for the highly bred producing stock. 304 pages, 176 illustrations, cloth bound **$5.00**

TURKEY MANAGEMENT, 6th Edition (1955)

By Stanley J. Marsden and J. Holmes Martin

A text on turkey raising and marketing by Stanley J. Marsden, Poultry Husbandman at the U.S. Research Center, Beltsville, Md., and J. Holmes Martin, Head of the Poultry Department, Purdue University. Covers breeding, rearing, feeding, preparation for the market, shows, diseases and their prevention and control. 1,000 pages, 124 illustrations **$7.00**

THE FEED MIXERS HANDBOOK, 2nd Edition (1956)

By Ross M. Sherwood

A text for feed mixers with special reference to the nutritional aspects of feed formulation. A practical handbook for practical men. 206 pages, cloth bound **$3.00**

No C. O. D.'s

ORDER FROM Reader Service Department, Feedstuffs, P.O. Box 67, Minneapolis 1, Minn.

SHORT COURSE — A poultry short course sponsored by Dr. Salsbury's Laboratories, Charles City, Iowa, was recently completed by these Wisconsin and Minnesota feed men and dealers. They are (front row, left to right): Charles Kirsch, Richland Center, Wis.; Leo Smith, Beaver Dam, Wis.; Richard J. Ripp, Waunakee, Wis.; Forrest L. Slotten, Beaver Dam, Wis.; R. E. Daniels, Hales Corners, a territory manager for Dr. Salsbury; Ed A. Rindfleisch, Beaver Dam, Wis., and LaVerne Koepnick, Jefferson, Wis. In the second row are (left to right): Lester Jarlsberg, Cambridge, Wis.; Curtis P. Sharpee, Sun Prairie, Wis.; James A. Wolf, Lomira, Wis.; Eugene Faber, Allenton, Wis., and Walter J. Henderson, Madison, Wis. In the third row are (left to right): Dean Amundson, Coon Valley, Wis.; Reginald D. Schroeder, Madison, Wis.; Wallace H. Foss, Jr., Elkhorn, Wis.; R. A. Somsen, Woodville, Wis.; Lester H. Tranberg, Ettrick, Wis.; Paul Zube, Viroqua, Wis., and George A. Hajney, Minneapolis.

University of Minnesota, St. Paul; chm., Dr. C. L. Cole, Dairy Husbandry Dept.

Sept. 10-11 — Maryland Poultry Servicemen's Conference; University of Maryland, College Park, Md.; chm., W. R. Rice, Poultry Department, University of Maryland.

Sept. 11-12—Pet Food Institute; Drake Hotel, Chicago; pres., Henry Bucklin, 332 S. Michigan Ave., Chicago, Ill.

Sept. 12 — Iowa Conference for Feed Salesmen and Dealers (formerly Iowa Nutrition Conference) Iowa State College, Ames, Iowa; chm., Dr. Walter Woods, Animal Husbandry Department.

Sept. 17-19—National Feed Ingredients Assn., Congress Hotel, Chicago, Ill.; sec., Peter W. Janss, 212 Equitable Bldg., Des Moines, Iowa.

Sept. 18-19 — Arkansas Formula Feed Conference; University of Arkansas, Fayetteville, Ark.; chm., Prof. E. L. Stephenson, Department of Animal Industry and Veterinary Science.

Sept. 21-30—World's Poultry Congress; Mexico City, Mexico; sec., Edward Karpoff, Agricultural Marketing Service, USDA, Washington 25, D.C.

Sept. 23-24—Iowa Poultry Hatchery Assn.; Veterans Memorial Auditorium, Des Moines, Iowa; sec., LeRoy Kruskop, 405½ Douglas Ave., Ames, Iowa.

Sept. 24 — Beef-Grassland Field Day; Rosemount Agricultural Experiment Station, University of Minnesota, chm., Harold Swanson, Information Service, Institute of Agriculture, University of Minnesota, St. Paul, Minn.

Sept. 25-27—Pennsylvania Millers & Feed Dealers Assn.; Penn-Sheraton Hotel, Pittsburgh, Pa.; sec., Richard I. Ammon, P.O. Box 329, Ephrata, Pa.

Sept. 29-30—Colorado Feed Conference; Colorado State University, Ft. Collins; chm., Dr. L. E. Washburn, Animal Industry Dept.

Oct. 2 — Nebraska Feeders Day, North Platte Experiment Station, North Platte, Neb.; Animal Husbandry Department, University of Nebraska, Lincoln.

Oct. 6-7—Seventh Region National Renderers Assn.; Sheraton-Jefferson Hotel, St. Louis, Mo.; sec., R. G. Day, Tulsa Rendering Co., Collinsville, Okla.

Oct. 7-9 — Northeastern Poultry Producers Council Poultry Exposition and Convention; Farm Show Bldg., Harrisburg, Pa.; chm., Alfred Van Wagenen, NEPPCO, 10 Rutgers Place, Trenton 8, N.J.

Oct. 8-10—Texas Nutrition Conference; Texas Agricultural and Mechanical College, College Station, Texas; chm., J. R. Couch, Poultry Science Dept.

Oct. 9 — Vermont Feed Dealers & Manufacturers Assn.; Agricultural Science Bldg., University of Vermont, Burlington, Vt.; sec., D. C. Henderson, Poultry Department.

Oct. 9-10—Washington Poultry & Hatchery Assn.; Winthrop Hotel, Tacoma, Wash.

Oct. 10-11—Arizona Grain and Seed Assn.; Hotel Westward Ho, Phoenix, Ariz.; sec., Hayden C. Hayden, Box 156, Tempe, Ariz.

Oct. 12-14—Kentucky Poultry Improvement Assn., and Kentucky Poultry Federation; Kenlake Hotel, Hardin, Kentucky; sec., John W. Tuttle, 730 Rose Street, Lexington, Ky.

Oct. 14-15—Virginia State Poultry Federation; Natural Bridge Hotel, Natural Bridge, Va.; sec., P. Paul Williams, 615 E. Franklin St., Richmond, Va.

Oct. 14-16—Association of American Feed Control Officials; Shoreham Hotel, Washington, D.C.; sec., L. E. Bopst, University of Maryland, College Park, Md.

Oct. 15—Animal Nutrition Research Council; Shoreham Hotel, Washington, D.C.; sec., Irwin Olcott, Dawe's Laboratories, Inc., 4800 S. Richmond St., Chicago 32, Ill.

Oct. 16-17—Michigan Feed & Grain Dealers Assn., Fall Conference; Kellogg Center, Michigan State University, East Lansing; sec., Nevels Pearson, P.O. Box 472, East Lansing, Mich.

Oct. 16-17 — Oklahoma Formula Feed Conference, Oklahoma State University, Stillwater, Okla.; chm., Dr. Rollin H. Thayer, Poultry Science Dept.

Oct. 20-21—California Animal Industry Conference, Fresno Memorial

Myvamix®
VITAMIN E
FEED SUPPLEMENT
IS DISTRIBUTED BY:

THE AMBURGO COMPANY, INCORPORATED
1315-17 Walnut Street
Philadelphia 7, Pennsylvania

CARROLL SWANSON SALES COMPANY
618 Des Moines Building
Des Moines 9, Iowa

FEED PRODUCTS, INC.
1370 11th Street
Denver, Colorado

W. M. GILLIES, INC.
244 California Street
San Francisco 11, California

GOOD-LIFE CHEMICALS, INC.
310 South First Street
Effingham, Illinois

HOLT PRODUCTS COMPANY
Box 840
Milwaukee 1, Wisconsin

KINDSTROM-SCHMOLL COMPANY
418 Flour Exchange
Minneapolis 15, Minnesota

M. A. McCLELLAND COMPANY
Dwight Building
Kansas City 5, Missouri

PLESS AND SHEAHAN
P.O. Box 2654
Memphis 2, Tennessee

THE JOHN F. YOUNG COMPANY
3270 Southside Avenue
Cincinnati 4, Ohio

IN CANADA
CHARLES ALBERT SMITH, LIMITED
356 Eastern Avenue
Toronto, Ontario

8307 Royden Road
Montreal, P. Q.

And, of course, you can get it directly from *Distillation Products Industries*, Rochester 3, N. Y. Sales offices: New York, Chicago, and Memphis.

producers of
Myvamix
Vitamin E
DPi
Distillation Products Industries
is a division of
Eastman Kodak Company

Imported
FISH MEAL
PROMPT and DEFERRED SHIPMENTS
•
Anchovy Meal
Herring Meal
Sardine Meal
White Fish Meal
•
FULL MEAL
(Fishmeal with Solubles)
•
FISH SOLUBLES
Dried 100% Pure
Made of South African Pilchards
•
UNEXTRACTED ANIMAL LIVER and GLANDULAR MEAL
•
STEAMED BONE MEAL
•
DICALCIUM PHOSPHATE
•
VITAMIN "A" FISH LIVER OIL
•
ALBUMINA
SUPPLY CO., Inc.
82 Beaver Street
NEW YORK 5, N.Y.
Phone: HAnover 2-4174
Teletype: NY 1-3788

Wenger LEADS THE INDUSTRY
IN PRODUCING
INTEGRATED FEED PROCESSING EQUIPMENT

Molasses Mixers in Six Models. For overhead or floor mounting. 3 to 60 tons per hour. Inclined Auger Feeder models available in smaller sizes for installation over driveways.

Pellet Mills • Liquid Systems • Coolers • Liquid Mixers • Multi-Blenders

For *every* size of feed mill, Wenger manufactures today's most efficient feed processing equipment. Join the ranks of many feed manufacturers who look to Wenger for all their major feed processing equipment. Select the unit which fits your particular needs from the most complete line of liquid conditioning, liquid blending, pelleting, cooling equipment. Or ask your Wenger representative to prepare a layout of all your feed processing requirements. Wenger integrated feed processing systems are your assurance of low cost production on top quality feeds. Tomorrow's Feeds Today, with Wenger.

Coolers. For Hard Pellets, Molasses Pellets or Steamed Grains. 14 sizes of single-stage or two-stage superposed. Capacities of 3 to 40 tons per hour.

Multi-Duty Pellet Mill. Hard Pellets, Hi-Molasses Pellets (optional), Wenger Blended Mash Feeds with 1 or 2 liquids, all from one packaged unit. 50, 75 & 100 H. P. sizes.

Multi-Blenders. Built in 3 sizes to apply several liquid feed ingredients simultaneously. Molasses, animal fats, fish solubles, liquid whey, etc. Capacities 8 to 60 tons per hour.

Packaged Unit Liquid Mixers. One of ten models for conditioning, feeding and blending any liquid feed ingredient. Capacities from 3 to 60 tons per hour.

Liquid Conditioning Feeders. Models to meter 1 to 5 liquids to hard type pellet mills or mixers.

Dressers and Blenders. Rubs out liquid balls and perfectly dresses the feeds. Available in 3 models.

Wenger Mixer Manufacturing
SABETHA, KANSAS • PHONE 111
Standard of the Industry for Liquid Feed Mixing, Pelleting and Cooling Equipment.

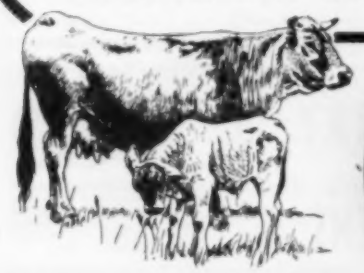
FOR
BEST SERVICE
ON
VITAMINS A & D
ALL TYPES — ALL POTENCIES
PLUS
PREMIXES
Call

RUDY ESCHENHEIMER COMPANY

BOX 147
CHILLICOTHE
MISSOURI
PHONE 1047

Serving the
Feed Trade
For Over
20 Years

Use
RUFIS
SUPER BIO CONCENTRATE



Increase
MILK
PRODUCTION
up to 20%

Get increased conversion on Beef Cattle on regular feeds and be able to feed more roughage for better gains and lower cost!

RUFIS SUPER BIO CONCENTRATE CONTAINS ALL NATURAL RUMEN BACTERIA, ENZYMES AND B VITAMINS. IT CONTAINS NO CULTURES OR SYNTHETICS.

RUFIS SUPER BIO CONCENTRATE CAN BE PELLETED. IT DOES NOT HAVE TO BE DUSTED ON THE PELLETS.

Each shipment of RUFIS Super Bio Concentrate is biologically tested in a laboratory to assure you it contains no pathogenes or harmful bacteria. There is only one RUFIS Super Bio Concentrate. It is protected by Patent No. 2,560,830.

OFFICES IN:
CHICAGO
3100 So. California Ave.
Chicago 8, Illinois
CINCINNATI
2933 Spring Grove Ave.
Cincinnati 25, Ohio
DENVER
1211 West 44th Street
Denver 11, Colorado
LOUISVILLE
4007 Crittenden Drive
Louisville 9, Kentucky
MILWAUKEE
1100 So. Barclay Street
Milwaukee 4, Wisconsin
MINNEAPOLIS
111—22nd Avenue, N.E.
Minneapolis 18, Minn.
NEW YORK
60 East 42nd Street
New York 17, New York
SOUTH NORWALK
55 Day Street
South Norwalk, Conn.

FREE BROCHURE! Write TODAY! No cost or obligation!

MERCHANTS CHEMICAL CO., INC.
605 Leavenworth St., Omaha, Nebr.

Name_____Title_____
Firm Name_____
Address_____
City_____State_____

Auditorium, Fresno, Cal.; sponsored by University of California and California Hay, Grain & Feed Dealers Assn.; sec., John Gilmore, 1400 10th St., Sacramento, Cal.

Oct. 23-24—First Annual Poultrymen's Institute; State College of Washington, Pullman, Wash.

Oct. 23-24 — Iowa Seed Dealers Assn.; Hotel Fort Des Moines, Des Moines, Iowa; sec., Bob Skinner, 928 Des Moines Bldg., Des Moines, Iowa.

Oct. 23-25—Nutrition Conference, Alabama Feed Assn.; Alabama Polytechnic Institute, Auburn, Ala.; chm., Merlin T. Bryant, Brundidge Milling Co., North Main St., Brundidge, Ala.

Oct. 27-29 — Nebraska Formula Feed Conference; University of Nebraska, Lincoln, Neb.; chm., Dr. J. L. Adams, Poultry Husbandry Dept.

Oct. 31—Nebraska Rooters Day; University of Nebraska, Lincoln, Neb.; chm. Dept. of Animal Husbandry.

Oct. 31-Nov. 3 — Florida Nutrition Conference; cruise from Miami to Nassau, British West Indies; chm., J. P. Feaster, Department of Animal Husbandry and Nutrition, University of Florida, Gainesville, Fla.

Nov. 2-5—National Renderers Assn., Hotel Statler, Washington, D.C., sec., Miss Jamie C. Fox, 30 N. LaSalle St., Chicago 2, Ill.

Nov. 7—Washington Animal Industry Conference; Lower Columbia Junior College, Longview, Wash.; sponsored by State College of Washington, Lower Columbia Junior College and Washington State Feed Assn.; assn. mgr., J. G. Wilson, 814 Second Ave. Bldg., Seattle 4, Wash.

Nov. 12-14 — Feed Production School; American Royal Bldg., Kansas City; sponsored by Midwest Feed Manufacturers Assn.; executive vice president, Lloyd S. Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

Nov. 13-14—Cornell Nutrition Conference; Hotel Statler, Buffalo, N.Y.; chm., Prof. Charles Chance, Wing Hall, Cornell University, Ithaca, N.Y.

Nov. 14—Small Mill Short Course; American Royal Bldg., Kansas City; sponsored by Midwest Feed Manufacturers Assn., executive vice president, Lloyd S. Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

Nov. 23-25—Western Grain & Feed Assn.; Hotel Fort Des Moines, Des Moines, Iowa; sec., Bob Skinner, 928 Des Moines Bldg., Des Moines, Iowa.

Nov. 30-Dec. 1 — Tennessee Feed Manufacturers Assn.; Noel Hotel, Nashville, Tenn.; sec., Charles H. Warfield, 602 American Trust Bldg., Nashville 3, Tenn.

1959

Jan. 6-8—National Turkey Federation Convention and Exposition; Veterans Auditorium, Des Moines, Iowa; sec., M. C. Small, P.O. Box 69, Mt. Morris, Ill.

Jan. 9-10 — Kansas Seed Dealers Assn.; Hotel Broadview, Wichita; sec., O. E. Case, 609 Wiley Bldg., Hutchinson, Kansas.

January 18-20 — Indiana Grain & Feed Dealers Assn.; Claypool Hotel, Indianapolis, Ind.; sec., Fred Sale, 600 Board of Trade Bldg., Indianapolis 4, Ind.

Jan. 26-28—Southeastern Poultry & Egg Assn., Atlanta, Ga.; sec., Harold E. Ford, 235 E. Ponce de Leon Ave., Decatur, Ga.

Jan. 28-30—American Dehydrators Assn., Shamrock-Hilton Hotel, Houston; exec. vice pres., Joseph Chrisman, Board of Trade Bldg., Kansas City 5, Mo.

Jan. 29-30—Oregon Animal Industry Conference; Oregon State College, Corvallis; sponsored by Oregon State College and Oregon Feed & Seed Dealers Assn.; sec., Russ Hays, 702 Lewis Bldg., Portland, Ore.

Feb. 6-7—Minnesota Turkey Growers Assn.; Leamington Hotel, Minneapolis; sec., A. E. Eisenmenger, 2200 University Ave., St. Paul, Minn.

Feb. 9-10—Montana Nutrition Conference; Montana State College, Bozeman, Mont.; chm., Dr. O. O. Thomas, Animal Industry Dept.

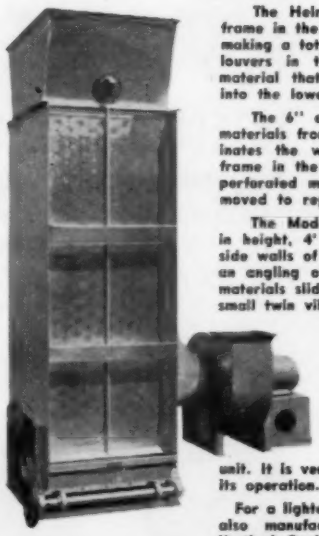
Feb. 12-13 — Washington State Feed Assn.; Leopold Hotel, Bellingham; mgr., J. G. Wilson, 814 Second Ave. Bldg., Seattle, Wash.

Feb. 13-15—Institute of American Poultry Industries' Fact Finding Conference; Municipal Auditorium, Kansas City, Mo.; Institute of American Poultry Industries, 59 E. Madison, Chicago 2, Ill.

Feb. 16-18—Midwest Feed Manufacturers Assn., annual convention, Muehlebach Hotel, Kansas City, executive vice president, Lloyd Larson, 20 West Ninth St., Kansas City, Mo.

Feb. 22-24—Colorado Grain, Mill &

Helm
Vertical Cooler



The Helm Cooler is designed 4' square with an "A" frame in the center which is approximately 12" for pellets, making a total of 3'. On either side is a 6" extension with louvers in this extension which guide small particles of material that come through the wire or perforated metal into the lower portion of the cooler.

The 6" extension is to eliminate wind from blowing the materials from either side of the cooler. This method eliminates the waste material falling on the floor. The "A" frame in the sides of the cooler are covered with wire or perforated metal. The sides and "A" frame are easily removed to replace the wire or the perforated metal.

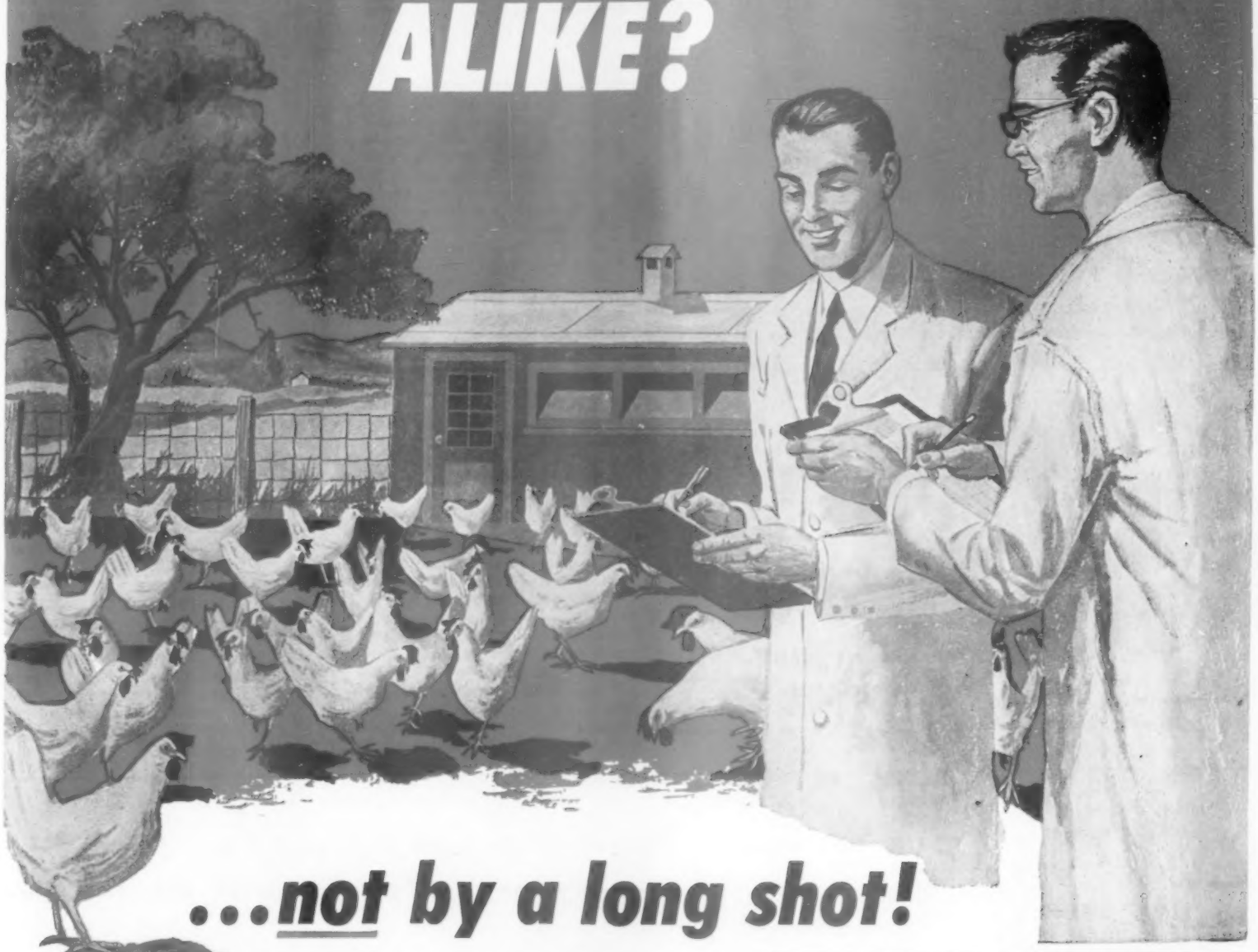
The Model 100 cooler has approximately 9' of cooling in height, 4' in width, with 2' added for the hopper. The side walls of the cooler are straight down and do not have an angling offset which could interfere with the pellets or materials sliding downward into the feeder. The feeder is a small twin vibrating shaker controlled by a bindicator which is mounted in the hopper. The control gates hang downward in the end of the shaker frame and are held in position by the weight. When the shaker starts the material feeds under the gates. This arrangement eliminates changing the speed of the feeder. The shaker is so designed that it does not vibrate or shake the unit. It is very quiet and smooth in its operation.

For a lighter load capacity—Helm also manufactures the Model 60 Vertical Cooler.

WRITE TODAY FOR FULL INFORMATION

HELM MANUFACTURING CO.
COTTON SEED OIL MILL MACHINERY
2550 N.E. 28th St. Phone MArket 4-7223 Fort Worth 6, Texas

ARE ALL DEFLUORINATED PHOSPHATES *ALIKE?*



...*not* by a long shot!

Nutritionally, CDP is a tried and tested* source of phosphorus, palatable to livestock even in free choice feeding. All of the phosphorus in CDP has demonstrated total biological availability to both plant (rumen bacterial micro-organisms) and animal life.

*Tested at state experiment stations and research laboratories not affiliated with Coronet.

Nutritional evidence establishing CDP as the *best* defluorinated phosphate is listed below. Literature available upon request.

1. "The Availability of Phosphorus from Different Sources for Poults Fed Purified Diets." *Poultry Science,* Volume XXXIII, Number 5, September, 1954.
2. "A Comparison of the Availability, to the Young Growing Chicken, of the Phosphorus in Defluorinated Phosphate and Analytical Reagent Grade Dicalcium Phosphate," by Lime Crest Research Laboratory, October, 1954.
3. "The Availability of Phosphorus from Different Sources for Poults Fed Practical-type Diets," *Poultry Science,* Volume XXXIV, Number 5, September, 1955.
4. "Phosphorus Availabilities as Determined by New Feeding Experiment," by Lime Crest Research Laboratory, November, 1955.
5. "Phosphorus Availability Assays by the University of Illinois (as presented by Dr. H. M. Scott) Method," by the Laboratory of Vitamin Technology, Inc., September, 1956.

Read what a leading nutritionist says about phosphorus availabilities:

"The feed nutritionist should be aware that the phosphorus in all phosphorus supplements is not available. The phosphorus supplier should be required to provide data concerning the availability of phosphorus in the supplement. Phosphorus supplements available to the feed trade may range from as low as 23% to as high as 92%. Thus the importance of phosphorus availability is immediately apparent."

Dr. J. R. Couch, *Formulation of Feeds for Laying Hens,* Feedstuffs, *July 27, 1957, pp. 18-24*

LET US FIGURE THE COST OF CDP DELIVERED TO YOUR PLANT

CDP CORONET DEFLUORINATED PHOSPHATE

Coronet Phosphate Company

NORFOLK 1, VIRGINIA

A DIVISION OF SMITH-DOUGLASS COMPANY, INCORPORATED SD

Minnesota Linseed Meal

Manufacturers and dealers everywhere use Minnesota Brand meal, pellets or grits. *Extra protein* sharpens appetites, boosts production. Wire, write or phone for latest quotes.

There's a **QUALITY DIFFERENCE**

MINNESOTA LINSEED OIL COMPANY

25—44th Ave. N. E. • Minneapolis 21, Minn.

SUNSET 8-9011

Feed Dealers Assn.; Shirley Savoy Hotel, Denver, Colo.; sec., Olaf Ericksen, 714 Cooper Bldg., Denver 2, Colo.

Feb. 23-26 — Colorado Livestock Days; Colorado State University, Ft. Collins, Colo.; chm., Dr. Lamar Esplin.

Feb. 24-25—Virginia Feed and Nutrition Conference; Hotel Roanoke, Roanoke, Va.; co-chm., Wm. G. Ritchie, J. S. Ritchie & Sons, Petersburg, Va., and Paul M. Reaves, professor Dairy Science, Virginia Polytechnic Institute, Blacksburg, Va.

March 1-3 — Ohio Grain & Feed Dealers Assn., Inc.; Neil House, Columbus, Ohio; sec., G. E. O'Brien, 710 N. Ohio Street, Greenville, Ohio.

March 19-20—Oregon Feed & Seed Dealers Association; Multnomah Hotel, Portland; sec., Russ Hays, 702 Lewis Bldg., Portland 4, Ore.

March 19-20 — Maryland Nutrition Conference; Shoreham Hotel, Washington, D.C.; chm., Dr. Richard D. Crook, Poultry Husbandry Department, University of Maryland, College Park, Md.

March 25—Distillers Feed Conference; Sheraton Gibson Hotel, Cincinnati; sponsored by Distillers Feed Research Council, exec. director, Dr. Lawrence E. Carpenter, 1232 Enquirer Bldg., Cincinnati 2, Ohio.

April 12-17—Grain Elevator & Processing Superintendents; Multnomah Hotel, Portland, Ore.; sec., Dean M. Clark, 1120 Board of Trade Bldg., Chicago 4, Ill.

April 30-May 2—Kansas Grain & Feed Dealers Assn.; Broadview Hotel, Wichita, Kansas; sec., O. E. Case, 901 Wiley Bldg., Hutchinson, Kansas.

May 8-10 — Grain Processing Machinery Manufacturers Assn.; Chicago; sec., Raymond J. Walter, 511 Fifth Ave., New York 17, N.Y.

May 11-13—American Feed Manufacturers Assn. Convention and National Feed Industry Show; Conrad Hilton Hotel, Chicago; sec., W. T. Diamond, 53 W. Jackson Blvd., Chicago 4, Ill.

June 7-9—Indiana Grain & Feed Dealers Association; Sheraton Hotel, French Lick, Ind.; sec., Fred Sale, 600 Board of Trade Bldg., Indianapolis, Ind.

June 7-9—Eastern Federation of Feed Merchants, Pocano Manor Inn, Pocano Manor, Pa.; sec., Austin W. Carpenter, Sherburne, N.Y.

U.S. Molasses Imports For 1958 Up Sharply

NEW ORLEANS—Imports of inedible molasses into the U.S. during the first five months of 1958 were more than 50% ahead of imports for the same five months a year earlier, the U.S. Department of Agriculture reports.

The report said total imports for the five months this year are 152.5 million gallons. For the same period of 1957, the report said, U.S. Census Bureau reports show imports of 96.8 million gallons.

Imports for the month of May, 1958, were 43.2 million gallons, compared with 30.6 million imported in May of last year.

Hawaiian cane blackstrap molasses production during July amounted to 10,066,599 gal., compared with 3,805,434 gal. in June. Shipment of Hawaiian cane blackstrap molasses to the U.S. mainland amounted to 6,444,477 gal. in July as against 567,036 gal. in June, the report said.

ELEVATOR MANAGER NAMED

ALGONA, IOWA — The Algona Grain Co., now in process of construction here, has named H. Dale Cole, Renwick, Iowa, manager, and Corwin Peer, Algona, assistant manager. Mr. Cole has been an elevator manager for 21 years. The elevator will have a 500,000-bu. capacity.

JAY BEE

The Business is There—Are You Getting Your Share?

You Can with the

JAY BEE All-in-One® FEEDMAKER

The Mobile Feed Processing Plant with "Texture Grind"

J. B. SEDBERRY, INC., Dept. F., Franklin, Tenn.

Please send me complete information about the Jay Bee All-in-One Feedmaker.

Name .....

Company .....

Street or Box .....

City ..... Zone .... State .....

For more business and more customers, take your service to the farmer with a Jay Bee All-in-One Feedmaker—a complete custom mill on wheels. Increase your sales and profits—save the farmer money — by blending your concentrates, minerals, and liquid molasses with his grain and roughage, right in his barnyard.

"TEXTURE GRIND" —Horsepower for horsepower, screen for screen, a Jay Bee is unexcelled for consistently uniform texture of grind.

To find out what the Jay Bee All-in-One can do for you, mail this coupon today!

J. B. SEDBERRY, INC., FRANKLIN, TENNESSEE

DO YOU KNOW THESE PEOPLE?

Virgil H. Scroggs, Vice President in charge of research and control; Dr. Ray M. Anderson, Vice President in charge of Poultry and Animal Nutrition; Walter M. Gatlin, Sales Manager; K. L. (Kenny) Stephens, Director of Advertising and Sales Promotion.

C. P. WENZEL
DIRECTOR OF DAIRY SERVICES

J.M. BEARD
DISTRICT REPRESENTATIVE
SOUTHEAST

JOE RABYOR
DISTRICT REPRESENTATIVE

SHELTON GOSSETT
DISTRICT REPRESENTATIVE
WEST TEXAS

WILLIAM BOYD
DISTRICT REPRESENTATIVE
MIDWEST

JACK ANSTINE
DISTRICT REPRESENTATIVE
WEST COAST

. . . they can help you solve some of your most pressing problems in building quality feeds . . . and selling them.

The VIT-A-WAY Program goes far beyond furnishing you the best means of fortification for your livestock and poultry feeds. It provides you with the services of a highly trained staff of men whose "know-how" in animal nutrition, feeds and feeding, merchandising and selling can help you capture a larger share of the feed business in your trade area.

THIS IS THE VIT-A-WAY PROGRAM . . .

ADVERTISING and MERCHANDISING HELP - -

Our complete advertising department will assist you in advertising and merchandising programs . . . designed to promote the sale of your feeds. Ad mats . . . folders . . . point of purchase material . . . radio copy . . . inserts and stuffers . . . hand bills . . . and everything you need to build sales and customer demand for your feeds!

DIRECT MAIL PROGRAM - -

Free mailings that go right into the home of your customers and prospects . . . with your name imprinted on them . . . These mailings invite them to visit you . . . and further explain to them how your VIT-A-WAY Fortified feeds will help them get top feeding results and lower feeding costs.

SALES TRAINING - -

Help for you and your salesmen to be sure they are familiar with your products, and how to apply their use to the problems of the feeder. Selling tools, literature, and mailings go to your salesmen to keep them abreast of new developments and findings so they can do a better selling job for you.

NUTRITIONAL COUNSEL - -

Our department of research and control is always ready to answer questions and furnish data on "tomorrow's problems today" . . . to help you meet and solve the problems in your own area. This puts you in a better position to serve your customers with the newest developments in scientific and efficient feeding practices.

FEED FORMULA SERVICE - -

Our complete feed formulating department is at your service to help you prepare any type formula for any type livestock feed. Your formulas will be made using local and easily available ingredients . . . and, they will be uniform and result-producing at the lowest possible cost to the feeder. You will get "your own" formulas prepared by some of the nation's finest nutritionists, who are on the VIT-A-WAY staff.

THESE ARE RESULTS OF THE VIT-A-WAY PROGRAM . . .

"My feed sales have doubled in the past two years. We think this is the result of your VIT-A-WAY products and VIT-A-WAY services."
MIXON MILLING CO.
CAIRO, GEORGIA

"Our feed business has more than doubled since we started using VIT-A-WAY in our feeds, and it is still increasing."
LIPSCOMB GRAIN & SEED CO.
SPRINGFIELD, MISSOURI

"Our sales have tripled in two years. VIT-A-WAY has been essentially our quality factor which has obtained new business and kept it here."
WALLACE GRAIN & FEED CO.
McKINNEY, TEXAS

"VIT-A-WAY has been and is today the greatest contributing factor in our successful feed program. Our increased sales volume is proof of outstanding results."
FARMERS UNION CO-OP MILL
SUPERIOR, NEBRASKA

VIT-A-WAY, INC. P. O. BOX 4311 FORT WORTH 6, TEXAS

☐ I'm interested in increasing my feed sales — send details
☐ No, I'm satisfied with my present feed sales

Name _____

Co. Name _____

Address _____

_____

IT WILL PAY YOU TO GET FULL DETAILS TODAY!

VIT-A-WAY IS MANUFACTURED UNDER U.S. PAT. NO. 2,611,702 T.M. Reg. U.S. PAT. OFF.

VIT-A-WAY makes a Good Feed BETTER!

Unbelievably Low Priced

3-TON (120 BUSHEL) BULK DELIVERY UNIT

$854.50 COMPLETE (K.D., F.O.B. Factory)

2-Ton Unit only $797.50
Complete, K.D., F.O.B. Factory.

by HELIX

IT'S NEW! At less than half the cost of comparable capacity units!

Engineering "know-how" acquired in producing thousands of low cost feed handling units for farmers is the reason Helix can bring you this new bulk delivery unit at half the price you'd expect to pay. It's rugged . . . it's fast —discharges 20 bushels or 700 pounds of feed per minute.

- Hand actuated and controlled hydraulic swivel boom turns full 360° and can be stopped at any point—up or down.
- Boom delivers from 33" to 16½' from ground —reaches 7½' from side of body (10' with auger extension).
- Enclosed bevel gear drives on boom and auger with sealed bearings at all high speed or wear-subject points.
- Reinforced corner grain-tight heavy gauge hot rolled steel tank mounted on 10 gauge frame formed for maximum strength.

WRITE TODAY—Put yourself in the profitable bulk feed delivery business at less than half the cost. Learn how inexpensively and easily the Helix Model 100 BDT Bulk Delivery Unit mounts on a ½, ¾ or 1 ton pickup, or any long chassis truck. A card will bring full details. FULLY GUARANTEED

HELIX CORPORATION, Dept. 27-A, Crown Point, Indiana

ATTENTION SALESMEN! You can earn a substantial extra income while working with the elevators and other feed dealers you now call on. You would do no selling for us. Write for details.

Hoffman

for vitamins

Hoffman-Taff Inc.
SPRINGFIELD, MISSOURI

Great Plains Farm Council Stresses Research, Land Use at Annual Meeting

WASHINGTON—While the Great Plains harvests a bumper wheat crop and has generally favorable soil moisture, agricultural leaders in the 10-state region are helping farmers and ranchers there to prepare for "the next drouth."

This fact was emphasized at the annual meeting of the Great Plains Agricultural Council at Montana State College in Bozeman recently. The group discussed research, educational, credit, and action programs designed to help farmers and ranchers to make land use and other adjustments and to build cash and feed reserves needed in a region of climatic extremes.

Four new regional research projects, one dealing with weather itself, were announced by Glenn Beck, chairman of the council's research committee, and director of the Kansas Agricultural Experiment Station at Manhattan. One part of the weather pattern research project is to obtain what Mr. Beck called a usable record of plains weather history. State and federal researchers will seek to determine whether the extremes of weather have a definable pattern; and, if so, how this pattern can be used for long-range predictions to help farmers and ranchers live and prosper with their climate.

Other regional research projects deal with grasshopper control, organization and operation of dryland farms, and with the effects of state and local taxes on farming and ranching.

Two speakers challenged the people within the plains area to take much more responsibility in making adjustments needed for a more stable agriculture.

Ervin L. Peterson, assistant secretary of agriculture, said there is a gap between research findings and the use made by the people of this knowledge. Already, he said, proposals are being made for federal regulation of land use in exchange for continuing federal help—proposals which the USDA resists.

Paul Griffith, chairman of the council's committee on program implementation and associate director of the Kansas State Agricultural Extension Service, Manhattan, said his committee believes that local citizens must take a stronger hand in solving their problems. This committee recommended an immediate meeting of agency leaders in each of the 10 states to consider council recommendations and possible actions. It also proposed the forming of lay and agency committees at state and county levels.

Moisture Conditions Better

The council also:

1. Heard K. E. Logan, USDA Agricultural Marketing Service, Lincoln, Neb., report that crop and moisture conditions throughout the Great Plains are better than at any time for several years. Mr. Logan noted two exceptions—an area in Montana and North Dakota near the Canadian border, and the Trans-Pecos area of Texas.

2. Heard a report from H. G. Bobst, Soil Conservation Service, Lincoln, that during the winter of 1957-58 wind erosion destroyed fewer acres of crops, damaged less land, and required less emergency tillage than during the recent drouth years.

3. Heard reports showing that two federal conservation cost-sharing programs are helping farmers and ranchers use the currently good moisture conditions to re-establish grass and make other land use changes. Landowners in the plains region of the 10 states have placed nearly 3.3 million acres in the Soil Bank Conservation Reserve, said Forest W. Beall of the Commodity Stabilization Service, Washington. He also said that during 1954-56, plains farmers have established more than 411,000 acres of permanent cover with Agricultural Conservation Program (ACP) cost-sharing.

4. Heard a report from Cyril Luker, SCS, Washington, that more than 600 farmers and ranchers already are receiving help under the new Great Plains Conservation Program. This new program provides cost-share help in 288 counties in applying complete soil and water con-

for the FEED INDUSTRY

- Chemical Analyses
- Vitamin Assays
- Drug Assays
- Spectrographic Analyses
- Chick Feeding Tests
- Consultation
- Formula Reviews

Write for Schedule of Charges

FEED SERVICE DIVISION
LIME CREST RESEARCH LABORATORY
R. D. 1, Box 67 Newton, New Jersey

LIMESTONE PRODUCTS CORP. OF AMERICA

OUR "FORMULA"... for serving the formula feed mixers

1. A QUALITY PRODUCT— FROM THE CREAM OF THE SOYBEAN CROP
2. SERVICE— FROM OUR MILL TO YOURS . . . . AS SCHEDULED!

Here's a formula that works . . . . FOR YOU!

KANSAS PHONE 3000 Soya PRODUCTS CO., INC. EMPORIA, KANSAS

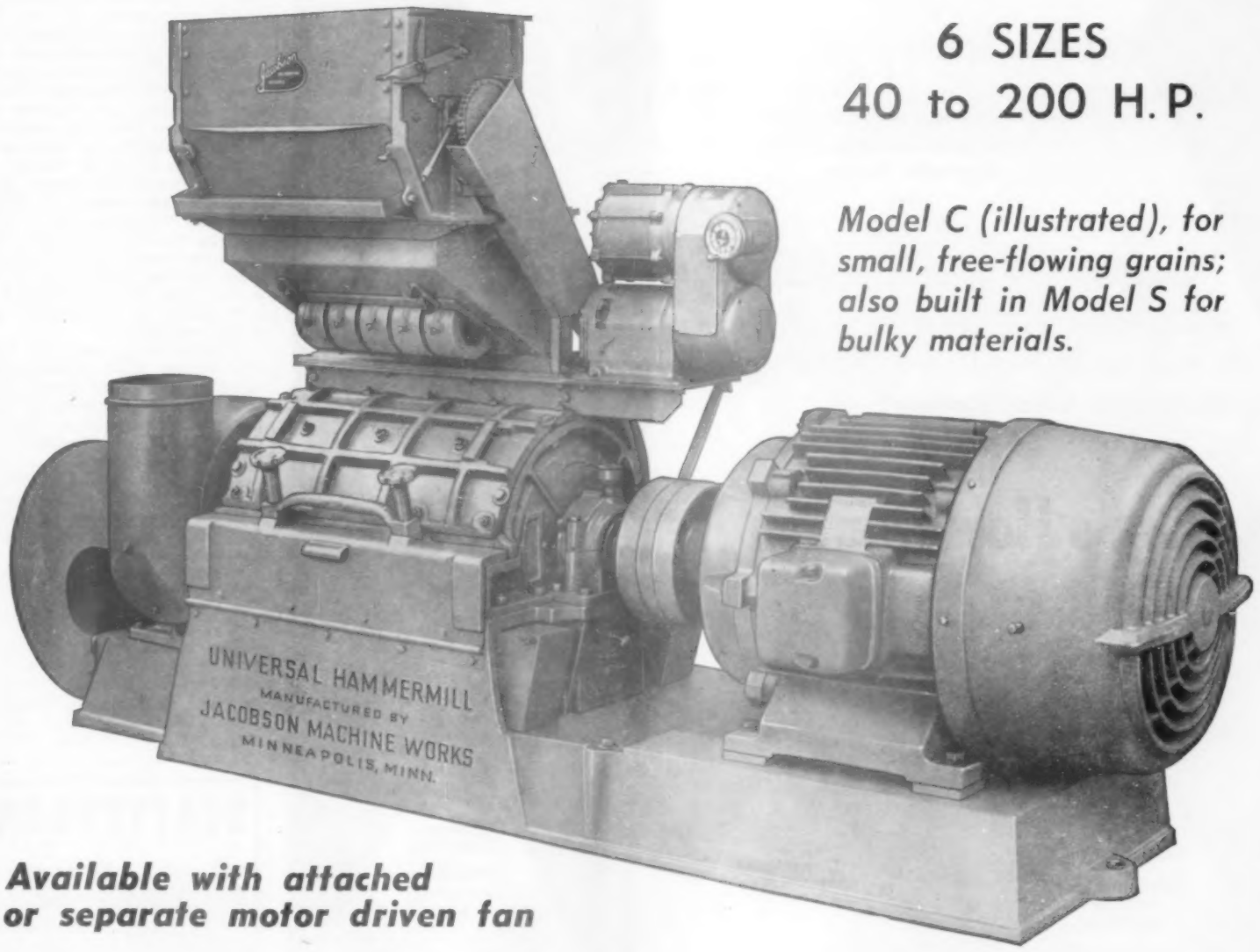
D.F.E. DIRECT FROM EMPORIA

Designed for efficient, uniform grinding . . . built for keeps!

Jacobson "Universal" Hammermill

6 SIZES
40 to 200 H.P.

Model C (illustrated), for small, free-flowing grains; also built in Model S for bulky materials.



Available with attached or separate motor driven fan

Write for Bulletins and the Name of Your Jacobson Sales Representative

Jacobson MACHINE WORKS

48 Years of Continuous Service to the Feed Industry

1090 TENTH AVE. S. E. Dept. M. MINNEAPOLIS 14, MINNESOTA

it pays to be a Dannen dealer

"The Dannen Sales Training School program has been very helpful to me and my employees in selling Dannen Feeds in our area. We rate Dannen Feeds tops in this territory."

Paul Peil, manager
Farmers Mill and Elevator
Concordia, Kansas

Wherever you find a Dannen Dealer, you find a man who is well-grounded in knowledge of feeds and feeding. The many Dannen educational programs help Dannen Dealers get this valuable knowledge . . . **knowledge that builds tonnage!**

Here's How Dannen Helps You Sell:

Premium Promotions
Product Control Department
Feeder Finance Programs
Effective Point-of-Sale Material
Outdoor Signs
Special Promotion for New Dealers
Sales Training School for Dannen Dealers and their Employees
Concentrated Farm Resale
Extensive Advertising
Newspaper
Farm Paper
Radio
Research Farm
Feeder Meetings
Dealer Meetings
New Eye-Catching Package Design
Local Newspaper Advertising
Live Displays

DANNEN

DEALERSHIPS AVAILABLE
WRITE TODAY FOR COMPLETE INFORMATION

"the feeds that mean profit for farmers who mean business"

DANNEN MILLS, INC.
ST. JOSEPH, MO.

servation on a schedule of from 3 to 10 years.

5. Heard water development and conservation described as a "stabilizer" in agricultural production by Roy E. Huffman, dean of agriculture at Montana State College. H. R. Stucky, head of agricultural economics at New Mexico A&M College, suggested intensive studies of ground water supplies, natural recharge of ground water, possibilities of artificial re-charge, beneficial use of limited water supplies, allocation of supplies for future use, and of water laws, especially as they pertain to conservation and land use.

6. Discussed credit and crop insurance needs of the region. John Bower, Montana Extension Service economist, said that credit programs need to be tailored to meet the risks peculiar to the plains. With all the unpredictable hazards of nature, farmers must be in a position, Mr. Bower said, to know that they can cover unforeseen expenses without having to take time out to make new credit arrangements.

Kermit H. Hansen, Farmers Home Administration administrator, Washington, said his agency's loan program has been broadened to provide greater assistance to farmers in the region. More funds are available in fiscal 1959 than in any previous year, Mr. Hansen said. E. H. Nikkel, director of sales and servicing for the Federal Crop Insurance Corp., Washington, said the plains has a greater need for all-risk crop insurance than any other region in the nation. He explained that federal crop insurance is "not designed or intended to protect profit, but to protect capital spent to produce."

7. Reviewed six new color films on "Preventing Wind Erosion in the Great Plains," produced by the USDA and the University of Nebraska. Leaflets produced by USDA's office of information for use with the films were distributed.

The Great Plains Agricultural Council is composed of extension service and experiment station offices in the land grant colleges and the heads of USDA agencies in the states of Texas, New Mexico, Colorado, Oklahoma, Kansas, Nebraska, North and South Dakota, Wyoming, and Montana.

The council named L. E. Hawkins, director of the Oklahoma Agricultural Experiment Station, Stillwater, to succeed N. E. Beers, Montana Extension Service director, as chairman.

SCATTERGRAIN

N-E-W Inexpensive Way to Blend and Distribute Grain Evenly

Price $49.50 Each

Compact, easy-to-use grain distributor scatters and blends the flow of higher moisture grain, drier kernels, and foreign material for even distribution in grain storage bins.

Specially engineered spinner scatters grain in a zig-zag pattern thus preventing higher moisture kernels from remaining in or close to the spout line with foreign material.

This thorough blending and scattering of grain helps prevent compaction areas and provides far greater efficiency on the part of aeration systems.

WRITE FOR DESCRIPTIVE CIRCULAR AND QUANTITY PRICES TODAY.

SEEDBURO EQUIPMENT CO.
Department FS-8
618 W. Jackson Blvd. ● Chicago 6, Ill.

Test Shows Pigs Gain Faster in Confinement Than on Winter Pasture

LEXINGTON, KY.—Confined pigs grew faster and required less labor than those on winter pasture in tests at the Kentucky Agricultural Experiment Station. The experiment results were reported by Prof. C. E. Barnhart, department of animal husbandry.

In the test, involving 60 weanling Hampshire pigs, Prof. Barnhart said the carcass quality was about the same, as was the amount of feed required per 100 lb. gain.

The records indicated that an average of 34.58 man hours of labor were required for the pigs on concrete, compared to 41 man hours labor required for those on pasture. The fatback thickness difference was not significant, Prof. Barnhart reported.

Three different treatments were used. One group was divided—part of the group was put on pasture and the other part on concrete—and fed from the start of the experiment until the pigs reached 100 lb.

The pigs on pasture averaged 1.25 lb. of gain per day, consumed 3.63 lb. of feed daily and required 293 lb. of feed per 100 lb. of gain. The pigs on concrete gained an average of 1.4 lb. daily, consumed 4.26 lb. of feed per day and required 308.8 lb. of feed per cwt. of gain. Feed costs for the group on pasture amounted to $8.39 cwt. gain and for the confined group, $8.75 cwt. gain.

Another group was checked from the time the pigs weighed 100 lb. until they reached 200 lb. Pigs on pasture averaged 1.39 lb. daily gain, with feed costs per cwt. gain amounting to $11.47. The pigs on concrete averaged 1.52 lb. daily gain and required $11.80 per cwt. gain.

Another group was checked for the entire feeding period. The pigs on pasture averaged 1.32 lb. daily gain, compared to 1.48 lb. for the pigs on concrete. Feed costs were $10.35 per cwt. gain for those on pasture and $10.56 for the confined pigs.

Prof. Barnhart said the carcass length was almost the same for both groups—29.46 in. for the confined group and 29.42 for those on pasture.

Dairy Farmers View Future with Optimism

COLUMBUS, OHIO — Dairy farmers looked into a crystal ball here recently and saw a specialized, but rosy, future ahead.

They indicated this picture in a questionnaire given them as part of the Dairy Day held at the Ohio Agricultural Experiment Station in Wooster. The survey was made by Ohio State University agricultural economists who asked the dairymen to compare their present operations with what they expect 10 years from now.

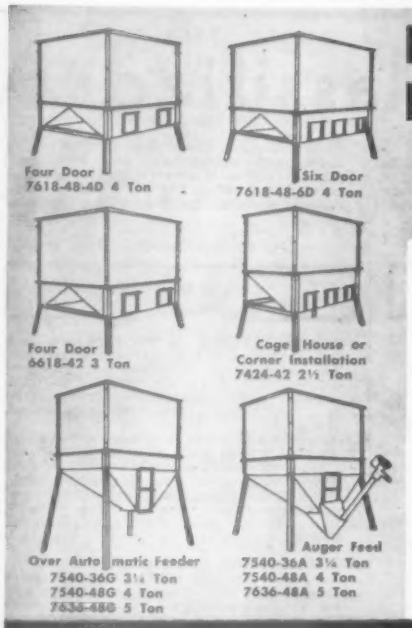
Farmers answering indicated that they would increase the number of cows in their herds by 62% and would expect a production increase of 35% per cow. Forty per cent of the farmers said they now have bulk tanks, and 84% said they would have bulk tanks in the next 10 years.

They also predicted a total farm investment increase. They foresee a total farm investment of 57% higher. But they expect it to pay them more. Their answers showed they expect an increase of 55% in gross income and 51% in net income.

Average herd size of the farmers answering the questionnaire was 31 cows.

NAMED MILL MANAGER

EDGEWOOD, TEXAS—Mrs. E. R. Whitmire, owner of the Edgewood Mill Co. here, has announced that L. W. Reeves, Edgewood, has been appointed manager of the plant. Mrs. Whitmire has been managing the mill since the death of her husband a few months ago.



BUILT TO LAST

Lemanco INSIDE BULK FEED BINS

Economical per ton storage, plus convenience . . . that's the answer to the popularity of LEMANCO all-steel bins for poultry houses and other types of bulk feeding operations.

Bases—all welded 14 gauge steel; sides—16 gauge galvanized steel; legs—¼" angles. Specially formed corners for extra reinforcement.

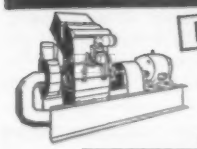
Make your investment pay over the long haul. Write today for further information.

LEACH MANUFACTURING CO.

P. O. Box 215 — Alabama City Station — GADSDEN, ALABAMA — Telephone Liberty 7-5472

NOW...Control Feeding Rate Of Hay As Well As Grain...

REMOTELY! with a FORDS push button remote-control HAMMERMILL



Write today for complete details and free illustrated literature

MS MYERS-SHERMAN COMPANY

2601 S. Illinois St., Streator, Ill.

IT'S ECONOMY WISE TO JERSEEIZE WITH JERSEE

VITAL-MIN a Pre-Mix VITAMINS MINERALS

Made by the builders of VITAMINIZED and MINERALIZED CONCENTRATES since 1922.

Jobbers and Warehouses From Coast to Coast

THE JERSEE CO. MINNEAPOLIS MINN.

WRITE TODAY FOR DEALERS SALES HELPS!

TWO QUALITY DRIED BLACKSTRAP MOLASSES PRODUCTS

Omalass

The original dried blackstrap molasses product. Each 100 lbs. contains the solids from 93 lbs. feeding cane molasses (23 lbs. of water removed) and 30 lbs. Corn Oil Meal. Convenient 50-lb. bags.

Scotch O Lass

The thrifty dried blackstrap molasses. Each 100 lbs. contains the solids from 85 lbs. feeding cane molasses (21 lbs. of water removed) and 36 lbs. soybean mill feed. Handy 50-lb. bags.

BOTH ARE BACKED BY CONTINUOUS ADVERTISING

VyLactos LABORATORIES, INC.
1901 East Euclid Avenue
Des Moines 13, Iowa

VyLACTOS LABORATORIES, Inc.
1901 East Euclid Ave.
Des Moines 13, Iowa

Please send me complete details on Omalass and Scotch O Lass.

Name .....
Company .....
Street .....
City ..... State .....

☆ Classified Ads ☆

Classified advertisements received by Tuesday each week will be inserted for the issue of the following Saturday. Rates: 15¢ per word; minimum charge $2.25. Situations wanted, 10¢ a word; $1.50 minimum. Count six words of signature, whether for direct reply or keyed care this office. If advertisement is keyed, care of this office, 20¢ per insertion additional charged for forwarding replies. Commercial advertising not accepted in classified advertising department. Display advertising accepted for insertion at minimum rate of $10.50 per column inch. All Want Ads cash with order.

SITUATIONS WANTED

PRODUCTION MANAGER WITH 17 years' experience in feed mills desires change. Will consider foreign assignment. Address Ad No. 4047, Feedstuffs, Minneapolis 40, Minn.

WANTED HARD WORK AND RESPONSibility. Will trade: Youth, 17 years' practical feed experience, liberal education, university and trade recommendations. Address Ad No. 4045, Feedstuffs, Minneapolis 40, Minn.

EXPERIENCED FEED EXECUTIVE WITH proven business administrative background seeks management position. Successful record in sales, purchasing and production. College education. Address Ad No. 4005, Feedstuffs, Minneapolis 40, Minn.

COMMODITY BUYER - TRAFFIC MANager: Family man, age 31, six years college with M.B.A. in Business Administration, six years experience in mixed feed business, desires to take responsibility, West Coast preferred. Address Ad No. 4015, Feedstuffs, Minneapolis 40, Minn.

CONSTRUCTION OR PRODUCTION SUperintendent with thirty years experience in feed and flour milling desires position with progressive company. Have supervised such projects as the installation of the Kansas State College Feed Technology mill. Can supply references of prominent persons in this field. Address Ad No. 4020, Feedstuffs, Minneapolis 40, Minn.

HELP WANTED

WANTED — SALESMEN FOR FEED equipment company. Under 30 years. Agriculture background preferred. Address Ad No. 3931, Feedstuffs, Minneapolis 40, Minn.

EXCELLENT SIDE-LINE OR FULL TIME item for salesman selling to feed, grain, farm equipment dealers and farmers. Liberal commissions. Replies will be held confidential. Write Doane Agricultural Service, Inc., St. Louis 8, Mo.

FEED SALESMAN WANTED FOR PROVen area—central Illinois—we have a man retiring and need a replacement. The territory is well established and company well known. Commission rate excellent—pay is superior—contact us now. Address Ad No. 3934, Feedstuffs, Minneapolis 40, Minn.

TURKEY SPECIALIST

For sales service work with feeders, dealers and salesmen. Handles management and feeding problems, writes bulletins and speaks frequently before groups.

Must know turkey diseases, and have had practical experience in management and feeding. Live in Decatur, salary, expenses paid, company car, extensive travel.

TURKEY SERVICE MAN

Representative on Company financed turkey projects; counsels on continuing basis with large feeders on improvement of flock management, performs liaison functions between these accounts and home office.

Must be able to recognize turkey diseases and perform certain post-mortems. Michigan, Ohio, Indiana area. Please send complete resume to J. E. Schaberg

A. E. Staley Manufacturing Company
Decatur, Illinois

HELP WANTED

FEED SALESMAN, 30 TO 40 YEARS OF age to live and sell in northeastern Nebraska territory. Good salary, car furnished; this is an old established independent feed manufacturer. Address Ad No. 4027, Feedstuffs, Minneapolis 40, Minn.

WANTED FEED AND CHICK SALESMAN —Must be qualified to sell both. Established 29 years, also have franchised chick, good salary and good commission, good opportunity, can be home one-half time. Meyer Bros. Hatcheries, Greeley, Colo.

EXTRA INCOME FOR FEED SALESMEN— No selling—simply leave keyed literature at elevators and other feed dealers you contact, on sensational new low cost feed handling equipment manufactured by reliable, long-established firm. You get a check for $40 or more for every sale traced to the keyed literature you have handed out. Write today. Address Ad No. 4030, Feedstuffs, Minneapolis 40, Minn.

BUSINESS OPPORTUNITIES

S. W. MINN. FEED MILL—EIGHT-YEAR-old building, good equipment, large lot, complete inventory. Excellent Corn Belt community. Address Ad No. 4050, Feedstuffs, Minneapolis 40, Minn.

FOR SALE—ELEVATOR, FOR GRAIN OR alfalfa pellets, sprinklered warehouse and processing buildings, 779,000 bushel capacity, modern office, Omaha, Neb. Address Ad No. 3963, Feedstuffs, Minneapolis 40, Minn.

ESTABLISHED, PROFITABLE FEED business in medium sized town, in excellent territory. $10,000 buys buildings, fixtures and mill equipment. Inventory at cost price. Pay nothing for good will. Sales approximately $100,000 per year. Owner retiring. Tom Petty, Box 42, Oakland, Ill.

FEED MILLING PROPERTY FOR SALE, excellent Midwest location. Service good, livestock farm section within 125-mile radius of plant. Property in good condition, fully equipped mill, warehouses, grain elevator, grain tank storage, railroad siding, truck facilities. Unusual offer. Address Ad No. 4049, Feedstuffs, Minneapolis 40, Minn.

When you want to Buy or Sell
ELEVATORS or
FEED MILLS
See or Write Us Your Needs
We Have Some Good Ones in
OHIO-INDIANA-
ILLINOIS
MID-WEST BUSINESS EXCHANGE
Halbert C. Smith Plymouth, Ind.

EQUIPMENT FOR SALE

Buy Only Seedburo
Guaranteed Factory Rebuilt
STEINLITE
MOISTURE TESTERS
Remember all Seedburo Steinlites are rebuilt by the Fred Stein Laboratories in Atchison, Kansas, who are the manufacturers. Each unit is completely rebuilt and carries full year guarantee. For details and prices write Dept. FS.
SEEDBURO EQUIPMENT CO.
618 W. Jackson Blvd. Chicago 6, Ill.

UNUSUAL SALES EXECUTIVE OPPORTUNITY

Due to our recent acquisition of a feed plant in Lincoln, Nebraska, and having a Farm Buildings plant in Onawa, Iowa, we have a large expansion program for forward looking District Sales Managers for Nebraska, South Dakota and Kansas. Our exclusive dealer franchise program on Big "H" Feeds, Poultry and Livestock Equipment, Honegger Chix and Farm Buildings, is an outstanding business builder, unequaled in our industry.

We are interested only in salesmen who are interested in a growing income, that have the self-discipline to manage themselves and the ambition to work hard to attain this good income. If you have the sincere desire to make financial progress and to become a part of a fast-growing organization, write, wire or phone 640, Honeggers' & Co., Inc., Sales Department, Fairbury, Illinois.

MACHINERY WANTED

ALL KINDS OF GOOD USED GRAIN processing machinery. E. H. Beer & Co., Inc., Baltimore 2, Md.

WANTED—GOOD USED DAFFIN MOBILE Mill. Address Ad No. 4040, Feedstuffs, Minneapolis 40, Minn.

HYDRAULIC PRESS FOR MANUFACTURing mineral and protein blocks. Address Ad No. 4039, Feedstuffs, Minneapolis 40, Minn.

WANTED TO BUY — RICHARDSON scales, bag closing machines and other good mill, feed and elevator equipment. J. E. Hagan Mill Machinery, Jefferson City, Mo.

MACHINERY FOR SALE

WHIRLAWAY AIRBLAST CAR LOADERS, cast iron pulleys, new and used feed and elevator equipment. Hagan Mill Machinery, P. O. Box 574, Jefferson City, Mo.

FOR SALE—ENCLOSED MOTORS; RICHardson Scales; truck scales; hammermills; oat crimpers; horizontal and upright feed mixers; sewing machines; elevator legs; screw conveyors; molasses mixers and pellet mills. J. E. Hagan Mill Machinery, Box 574, Jefferson City, Mo.

FEED MIXER, 1-TON CAPACITY, GUARanteed first-class throughout, 5 H.P. motor drive. Address Ad No. 3479, Feedstuffs, Minneapolis 40, Minn.

CHAMPION MOBILE GRINDER AND mixer units. Champion Portable Mill Co., 2105 Como Ave., Minneapolis 14, Minn.

MINNEAPOLIS BAG SEWING MACHINE, Model M100, factory rebuilt—$190. The Nelson Company, Inc., Oxford, Kansas.

FOR SALE: HAVE KM30 200 LB. ELECtric Yale Lift truck. Wenger Mixer Manufacturing, Sabetha, Kansas.

1955 DAFFIN ON 6400 CHEV. A-1 CONDItion, $7200. R. M. Hinnen, R.R. No. 1, Eureka, Ill.

DAFFIN MOBILE MILL—GOOD CONDItion. Ready to go. Glad to have you see it work. Sunshine Farm Supply, 49 North Broad, Lititz, Pa.

FOR SALE: FORDS PORTABLE FEED grinder with mixers. Have two exceptionally good used outfits. H. L. Myers, Route No. 3, Alliance, Ohio, Phone 7209.

PNEUMATIC "AIR-CONVEYOR" SYSTEMS —Positive Pressure blowers, new or used. Any size, capacity, distance of product. Nolder Co., Box 14, Corona Del Mar, Cal.

2 FIELD QUEEN CHOPPERS 7' CUT. Completely reconditioned and guaranteed. Will consider trade for California pellet mill. Northern Colorado Alfalfa Milling Company, LaSalle, Colorado.

CHAMPION MOBILE GRINDER AND vertical mixer mounted on 1957 Dodge, 1½ ton truck. Good condition. Under $5,000. Terms. Paul I. Olson, Route No. 1, Cologne, Minn.—Windsor 6-3284.

SALE — ALUMINUM TANKS, 7,000 GAL., 4,000 gal. Spiral ribbon mixers 336, 200, 75 cu. ft. Dewatering Presses, Davenport No. 1A, No. 2A, No. 3A, Louisville 8-roll 36". Six Louisville Rotary Steam Tube Dryers 6'x50', 6'x30', 6'x25'. Perry, 1403 North 6th St., Philadelphia 22, Pa.

FOR SALE—RANDOLPH DRYER, 300 BU. per hour capacity, continuous flow, natural gas fired burner complete with motors and legs. Also Cob Blower Fan 36-inch diameter with 10 H.P., 3-phase, 440-volt Fairbanks-Morse motor. Ashville Grain Co., Ashville, Ohio—Phone 3241.

ONE SPROUT-WALDRON JR. PELLET mill for sale. Very reasonable, with or without 30 H.P. motor. Delivers two-ton per hour. Also one 40 to 60 H.P. Jacobson Hammer Mill with several screens and permanent magnet, Model 17F8. Can furnish with or without motor. Al Nuzum Supply Co., Phone 7-3505, Baxter, Iowa.

FACTORY REBUILT MOISTURE TESTERS

All makes used electric testers. Carefully reconditioned by trained electronic engineers. Each unit carries one-year guarantee. Prices start as low as $100.00. Send for our free 200-page catalog on grain testing and handling equipment and supplies. Burrows Equipment Company, 1316-C Sherman Ave., Evanston, Illinois.

Use FEEDSTUFFS Want Ads for RESULTS

Economists Conduct Consumer Survey on Meat-Type Pork

LAFAYETTE, IND. — Consumers bought 6% more meat-type pork than "regular" pork when they were priced the same, according to a survey by two Purdue University agricultural economists.

J. H. Stevenson and Norton E. Smith found also that when consumers had a choice between "regular" pork at a lower price and meat-type pork at a higher price, they spent 40¢ of their pork dollar on meat-type pork and 60c on regular pork.

Consumer reaction to meat-type pork was measured at retail levels in five supermarkets. Rail grading eliminated "counterfeits," or "meatless wonders," as well as overly fat hogs. Substandard loins were sorted out.

The research indicated that certain meat-type pork products were more desirable from the consumer's point of view than are other meat-type pork products. In the case of pork loin cuts, such as center cut chops and loin roasts which can be trimmed, there appeared to be no special preference for the meat-type product when compared with well-trimmed regular pork.

For certain other pork products such as bacon, hams and shoulders, from which fat can not be trimmed since most of it is on the inside, there appeared to be a fairly strong consumer preference when they were of the meat-type variety.

Two practical problems were encountered in processing and merchandising meat-type pork products. The first was that of keeping them separate from other pork products in a large meat packing plant. A second problem developed at the retail stores. Meat-type pork did not have as long a "shelf life"—a term used to describe the ability of a product to retain qualities of freshness—as regular pork.

Since lean contains more water than does fat, meat-type pork naturally has a higher percentage of water. This high water content presented problems of leakage when it was being boxed or stored. Also, the moisture evaporated when it was displayed and resulted in a less attractive piece of merchandise.

"Even though approximately one third of the consumers whose reactions are measured in this study showed a preference for the leaner pork at 10% higher prices, additional work needs to be done to determine consumer reactions under other pricing arrangements," the economists concluded.

NEW FEED FIRM

DANVILLE, IOWA—Incorporation notice of the Danville Mill & Supply Co. was published recently. The notice said the firm will grind and mix feeds and will sell farm supplies. LaMar Mapel, Robert A. Wagner and Waith U. G. Beck, all of Danville, were listed as directors of the firm.

JUST THINK...
1 only

SHELL OUT
$4.00 a year* to keep abreast of the rapidly changing Feed Industry.
*Less than 8 cents per week for 52 issues of...
FEEDSTUFFS

UP OR DOWN?

By Leonard W. Schruben
Agricultural Economist, Kansas State College

Production and Price of Dehydrated Alfalfa

Profits in feed manufacturing are directly related to ingredient cost. In turn, ingredient costs are related to supplies of that ingredient together with its utilization and prices of possible substitutes.

An interesting case in point is the price pattern for dehydrated alfalfa that has developed over the years since World War II. The pricing of this ingredient also is of interest at this time because of its relatively low price. How long the industry can survive pricing at levels prevailing in the last year or so remains to be seen.

One of the interesting features in this situation is the apparent relationship between prices in winter and production the preceding season. Generally, years of larger production are followed by lower prices. This relationship is shown in Exhibit 1 which accompanies this article.

In your use of Exhibit 1, it will help if you understand how it was constructed. First, the average price at Kansas City, November through April, was calculated. Next, the production in the entire U.S. for the season beginning in April was plotted on the bottom scale. Directly above this a point was located on a level with the winter price. Thus, each point represents a given season. The year for each season is indicated.

For example, 1,067 thousand tons were produced in the 1954-55 season. The average November-April price was just over $60 ton. First, find the tons on the bottom scale and read up even with the price on the side scale. The "54" beside the dot indicates the year.

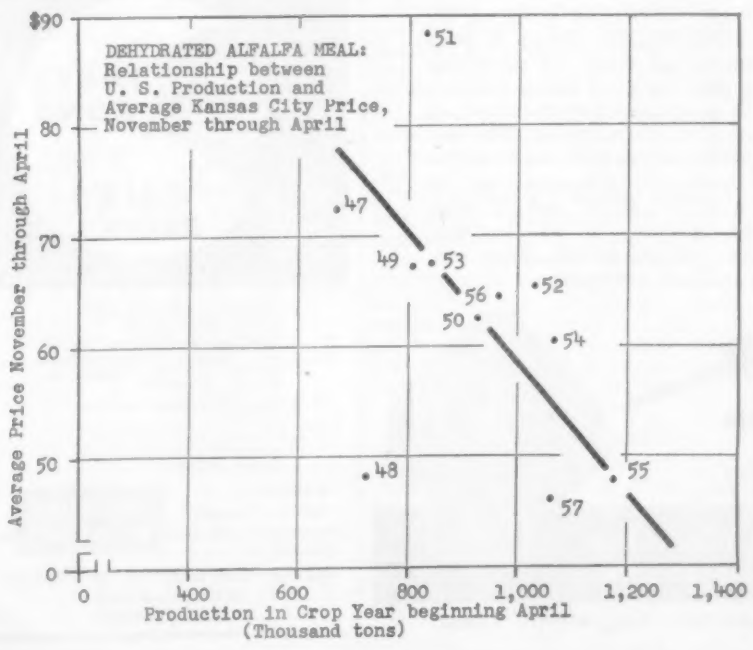
The heavy diagonal line represents the general relationship between production and price which has developed over the past few years. Statistical measures have not been applied because of the comparatively small number of years involved. However, the pattern of lower prices in years of large production appears quite plain.

For example, if 800,000 tons of dehydrated alfalfa were produced, the winter price could be expected to average in the $70 per ton range. If 1,200,000 were produced, winter prices could be expected to average something under $50 per ton. If a given year displayed the typical relationship, the dot representing that year would fall on the diagonal line.

Of course, you will not find each year following this typical pattern. The years 1950, 1953, and 1955 did follow the pattern, and the dots representing those years fell on the diagonal line. But the others did not. In more recent years, the development and availability of storage have influenced this pattern.

No one can be certain what prices will do, and it's probably just as well. However, by studying price relationships, you are in a better position to anticipate the probable range in price.

EXHIBIT 1—Dehydrated Alfalfa Meal: Relationship between U.S. production in crop year beginning in April and average price at Kansas City, 17% protein, in the following November through April, 1947-57.



Indiana Laying Flocks Get Bigger and Bigger, Purdue Survey Shows

LAFAYETTE, IND.—A recent Purdue University study shows that Indiana laying flocks are growing larger each year, it has been reported by Dr. E. W. Kehrberg and Ludwig Eisgruber, agricultural economists, and Prof. J. W. Sicer, poultry specialist, at the university.

In 1940 only 1% of Indiana laying flocks contained more than 400 birds. By 1954 almost 6% of the flocks were over 400 birds. Northern Indiana flocks averaged larger; 52% of the flocks in a selected market area were over 500 birds, and 9% numbered over 1,500 birds.

Most poultry raisers feel that the 1,500-flock size is too small for an efficient unit. Eighteen percent of a group of laying flock owners interviewed for the Purdue study said that they could manage up to 2,500 birds on a full-time basis, and 9% believed they could handle 10,000 or more.

The farmers interviewed felt there were several important factors in determining laying flock size. They listed housing facilities and equipment available on the farm, price of eggs and price of feed.

When asked what will limit laying flock size in the future, slightly more than half of the farmers interviewed cited availability of competent labor. The majority said disease and lack of capital would not limit flock size.

"The conclusion of this study points to a continuing upward trend in laying flock size. As new buildings and equipment come into use, flock size will probably increase in order to make optimum use of the operator's labor and capital," according to the researchers.

Tests Show Holstein Steers Can Be Fed Profitably for Beef

FORT COLLINS, COLO.—Raising Holstein steers for beef can be profitable, and adding stilbestrol to the feed can increase the profits, according to Dr. Gerald M. Ward, department of dairy industry, Colorado State University.

He has reported that stilbestrol-fed steers gained at the rate of 2.4 lb. per day, while the control group gained 2.1 lb. per day. The average return above feed costs, Dr. Ward said, was $35.70 per head for the stilbestrol group and $22.91 for the controls.

In the experiment 16 Holstein steers were divided into two groups. Animals in each group averaged 377 lb. and five months of age. A ration consisting of alfalfa hay, corn silage and grain was fed to each group at the rate of 12 lb. per day. One group received 10 lb. of stilbestrol mix per ton of feed.

Dr. Ward said weights of the two groups held even for the first 60 days. Final weights after 278 days on the test, however, showed the stilbestrol-fed group made better overall gains. All animals graded U.S. standard and the percentage of wholesale cuts was essentially the same for both groups.

Carcass tests showed the same amount of fat in the two groups, but the stilbestrol-fed steers had 57% lean meat as compared to 53% lean in the control group. Separable bone in each group was 22% and 26%, respectively.

Four Turkey Feeding Systems Compared

AMES, IOWA—Four different turkey feeding systems commonly used in Iowa were compared by Dr. R. E. Phillips and Dr. S. L. Balloun, Iowa State College department of poultry husbandry. The value of grit for growing turkeys under confinement was also examined.

The four systems of feeding tested were: complete mash; standard 34% protein concentrate plus ground corn; protein concentrate plus corn adjusted to maintain more nearly uniform levels of minerals and vitamins; and 24% concentrate plus shelled corn free-choice.

Turkeys on the free-choice system consumed slightly higher protein diets and gained slightly more than the average of the other three systems. Feed efficiency was superior by 10.3%. The researchers said the difference was most likely due to the turkey's lack of ability to use large amounts of finely ground feed efficiently.

Results showed that the feeding of grit did not affect weight gains or feed efficiency in these trials.

The experiment was reported in Iowa Farm Science, publication of Iowa State College.

Nutrition Meeting For Veterinarians To be Held Nov. 19

CHICAGO — The annual Nutrition Conference for Veterinarians sponsored jointly by the Illinois Feed Assn. and Illinois State Veterinary Assn. will be held Nov. 19 at the Pabst Brewing Co. auditorium, Peoria, Ill., the Illinois Feed Assn. has announced.

Dairy, swine, beef cattle and pet nutrition will all get attention at the meeting, the announcement said. Dr. O. Burr Ross, head of the department of animal science, University of Illinois, will discuss beef cattle nutrition.

Dr. Roger Morrison, Quaker Oats Co., Chicago, will talk on dairy cattle nutrition and Dr. D. E. Becker, department of animal science, University of Illinois, will cover swine nutrition research.

Discussing pet nutrition research will be Dr. Victor Heiman, Corn Products Refining Co., Waverly, N.Y.

The meeting will conclude with a panel discussion on the general subject of medicated feed additives, with the following persons taking these phases of the subject: A. T. Myren, Faultless Milling Co., Springfield, "In Feed Manufacturing"; Ray Klussendorf, Commercial Solvents Co., Terre Haute, Ind., "To Combat Stress"; James R. Allen, McMillen Feed Mills, Decatur, Ind., "In Veterinary Practice."

The joint conference was instituted in 1949 to bring feed men and veterinarians closer together and to promote mutual understanding and friendly cooperation.

Registration fee for the conference, including luncheon, will be $5. Registration will begin at 9 a.m.

COMPLETES EXPANSION

LEBANON, ORE.—Scroggin Feed & Seed Co., Lebanon, has just completed an expansion program with the erection of six bulk feed storage bins. The addition of the new bins will more than double the firm's capacity, according to Ken Fuller and Joe Burian, owners.

BEAT HIGHER FEED COST!
Iowa Economy Beef Supplement's advantages become more important as the protein cost of other, no-better, supplements rises. Dehydrated Ground Corn Cob Meal is the approved base for the Iowa Economy Supplement. Your most dependable and reliable source for the finest Dehydrated Corn Cob Meal is:
PAXTON PROCESSING CO., INC.
P. O. Box 120 Paxton, Ill. Phone 222

Fleischmann's F·I·D·Y
IRRADIATED DRY YEAST
RICH IN VITAMIN D FOR FOUR-FOOTED ANIMALS

HIGHER QUALITY HEAT TREATED HAMMERS
Hammers direct from manufacturer of years' experience. Send your specifications or worn hammer. Quantity discounts on hammers and screens. Ask for prices.
SOUTHWEST MILL SUPPLY CO.
P. O. Box 7455 N. Kansas City, Mo.

"Delivery is always F-A-S-T when you order from BURROWS Catalog!"
BURROWS
BURROWS EQUIPMENT CO.
1316 Sherman Ave. Evanston, Ill.

Magnetic ideas from ERIEZ

Tramp iron is a killer!

Tramp iron in your product can kill cattle and poultry . . . damage your reputation. It can ruin expensive machinery, start fires, cause downtime. Safeguard your investment with one of the many Eriez magnetic separators available to the milling industry. The Eriez Grate Magnet shown here is removing dangerous unwanted iron from a processing line before it can cause damage or contaminate the finished product.

To protect your equipment and your reputation, install an Eriez permanent-powered magnetic separator, used to pull dangerous tramp iron contamination from feed and grain processing lines of all types.

ERIEZ HI-POWR MAGNETIC SEPARATORS

ERIEZ HI-VI VIBRATORY EQUIPMENT

Magnetic Pulley—for separating tramp iron from materials conveyed on belts of rubber, canvas, leather, stainless steel or any other non-magnetic substance. Automatically cleans itself of accumulated iron. Belt widths and diameters in varying sizes.

Plate Magnet—powerful, fully enclosed magnetic units, for stationary or hinged installation. Four magnetic strengths, depending on depth of flow of line. Standard sizes from 4" to 72" width, in 2" increments. Special sizes made.

Magnetic Drum—used for spouts, chutes, spiral conveyors, etc. . . . whenever the materials are not conveyed on belts. Works equally well with hot or cold, wet or dry products. Self-cleaning . . . automatically drops tramp iron away from product.

All Eriez Magnets are non-electric, self-contained, easily installed. They operate without any wires or attachments. Magnetic power is guaranteed indefinitely . . . first cost is the last.

NEW! Eriez HI-VI *electro-permanent* magnetic vibratory equipment NEEDS NO RECTIFIER . . . operates for less with exclusive "Double Action Drive."

First electro-permanent magnetic units operating at 3600 CPM directly off an AC line! Just plug in . . . no rectifier needed! Compact, lightweight, easily installed. *HI-VI Unit Vibrators* keep bulk materials flowing freely through bins, chutes, etc., prevent pile-ups and bridging. *HI-VI Vibratory Feeders* (for accurate and automatic feeding) give a liquid-like flow to bulk materials. Alnico V magnetic element, the heart of the units, provides high operating efficiency at low cost. Write for complete HI-VI literature.

FREE LITERATURE on all these magnets mailed on request.

Write to: Eriez Mfg. Co., 118-HC Magnet Dr., Erie, Pa.

★ Buy and Sell Through WANT ADS ★

Washington Animal Industry Conference Program Announced

SEATTLE—Dr. E. P. Singsen, head of the department of poultry science, University of Connecticut, will be the featured speaker at the Washington Animal Industry Conference to be held Nov. 7 at Lower Columbia Junior College, Longview, Wash.

This was announced in a recent bulletin of the Washington State Feed Assn. Dr. Singsen plans to discuss the feeding of heavy, meat-type breeding hens and results he has had from controlling intake of feed by these birds. He will also discuss recent data on antibiotics for hens and chicks, energy evaluation for chicks and lights for laying hens, the bulletin said.

A new feature of the conference this year will be a 1½-hour discussion covering 10 "research briefs." These include topics about which there is not much information but considerable interest. Most of the discussion will cover results so far in current research projects. Each speaker will be allowed eight minutes and a question and answer period.

Lamb, Mutton Imports Show Sharp Increase

SAN FRANCISCO — Imports of lamb and mutton into the U.S. increased "at a fabulous rate" during the second quarter of 1958 as compared with the same three months in 1957, reports the San Francisco office of the U.S. Customs. The April through June, 1958, lamb and mutton imports totaled 8,726,086 lb., compared with only 699,267 lb. for the same dates the year before.

Total imports of lamb and mutton into California during 1957 were 39,281 lb., as compared with the incomplete tabulation for the first six months of the current year which shows 142,315 lb. lamb and 1,137,873 lb. mutton from New Zealand and Australia, not including Los Angeles unloads.

Beef imports in San Francisco and Seattle during one week in August totaled approximately 1¼ million pounds, with 561,802 lb. arriving in San Francisco, and 724,647 lb. in Seattle. These shipments included hindquarters of steer beef, boneless cow beef, boneless bull beef, beef trimmings and beef cuts.

"Calm down son," said the father of the marriageable daughter to the fidgeting young man. "I bet you want to marry my daughter and you're shy about asking for her. Well, take her, my boy, marry her and good luck to you."

"Oh, no, it wasn't that, Mr. Smith," the suitor answered. "I just wondered if you could lend me $25."

"Lend you $25!" exploded Dad. "I should say not! Why, I hardly know you!"

◆ ◆ ◆

Modern Miss: Mother, did you ever flirt when you were young?"

Mother: "Yes, dear, I'm afraid I did."

Modern Miss: "And were you punished for it?"

Mother: "Yes, dear, I married your father."

◆ ◆ ◆

The neurotic builds castles in the air, the psychotic lives in them, and the psychiatrist collects rent on them.

◆ ◆ ◆

A diner rushed over to the manager of the restaurant. "I turned my head and someone stole my topcoat," he screamed.

"What kind of topcoat did you have?" asked the manager.

"It was a brown tweed coat with raglan sleeves," replied the customer.

"Mmmmmm," mused the manager. "Come to think of it, I saw a man walking out of here with that very coat on."

"Quick!" demanded the customer. "What did the guy look like?"

The manager shook his head. "Terrible," he sighed, "the sleeves were too short for him."

◆ ◆ ◆

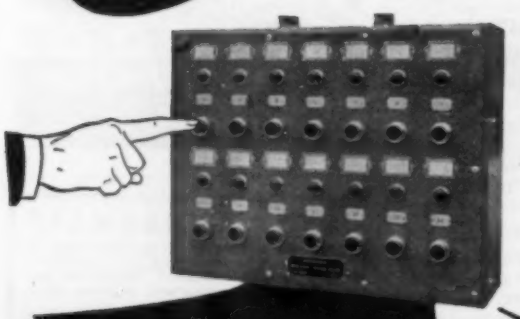
"I need a job, Senator," said the man from his home state.

The Senator thought for a moment. "Well, I'll tell you," he said, "there aren't any jobs, but here's what I'll do. I'll get up a committee to investigate why there are no jobs, and you can be the head of that, with a salary beginning at ten thousand a year."

NOW PUSH BUTTON CONTROL

FOR DISTRIBUTION OF

DRY BULK MATERIALS



Do you ever wonder if your distributor is set on the right bin? The new FOOL-PROOF Hayes & Stolz Electric Distributor removes all doubt by signalling accurately your loading position at all times. Position can be changed only by a numbered push-button on the control panel, assuring positive selection. The new H & S Electric Distributor can be fitted with 5 to 20 openings. The diameter of these openings can be specified in 6", 7", 8" 10" and 12" sizes. Adaptable to mounting on elevator legs, collectors, sifters, mixers, screw conveyors and belt conveyors.

H S Electric Distributor

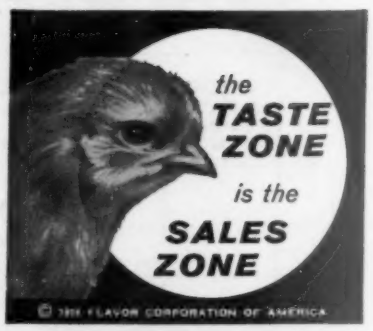
CAN BE CUSTOM-BUILT IN ALL SIZES TO FIT YOUR PLANT NEEDS

Extra monitor panels are available to allow for check on settings from anywhere in your plant.

Engineered with care and fully backed by HAYES & STOLZ WARRANTY

Hayes & Stolz INDUSTRIAL MANUFACTURING CO., INC.

3521 HEMPHILL ST. P. O. Box 953 So. Side Sta., Fort Worth, Texas



- Stimulates appetite—adds aroma, taste appeal
- Stabilizes fat-bearing ingredients—guards vital nutrients—helps prevent vitamin deficiency diseases
- Eliminates bitter taste of additives
- Prevents feed off-odors—powerful antioxidant and flavor action

Write for "taste-test" sample

SUCRO FLAVOR

PRODUCT OF

FLAVOR CORPORATION OF AMERICA

3037 N. Clark Street

Chicago 14, Illinois

FEED OUTPUT

(Continued from page 1)

bean industry, can get," Mr. Rowland said. "We owe it to our Big Boss, the feeder, to produce a nutritional product at a price that will permit him to make a profit. If we ever lose sight of that, we are sunk."

The soybean and manufactured feed businesses are natural partners, he said. Each must depend on the other. He pointed out that 80% of all soybean meal is used by the feed industry, and that the soybean industry has been responsible for much of the growth of the manufactured feed business. But the feed business has also held up its share of the partnership by bringing out the nutritional value of soybean meal by properly blending it with other ingredients and placing the product on the market at a reasonable price to the producer of meat, milk and eggs.

Looking at the future, he said that population growth alone brings 3 million more hungry Americans each year, and each one of them now eats the equivalent of about 1,530 lb. of feed in terms of what it takes to produce the meat, milk and eggs they consume.

"That's a total increase in potential of 2,295,000 tons of feed every year over the previous year," he said. "This year feed consumption will amount to 135 million tons total. In 1975 the potential will be 39 million tons more than this year, or 174 million tons."

Growth Opportunities

This provides two big opportunities for growth, he said. The first is the opportunity to increase the percentage of formula feed to total feedstuffs fed. Ten years ago that percentage was 21%. In 1957, it was 28%. With the trend to more efficient feeding and management every year, manufactured feeds will represent a larger percentage of total feedstuffs consumed in the future, he said.

"I believe we can reasonably expect the proportion of manufactured feed to climb to a minimum of 40% of all feed fed by 1975, or to about 70 million tons," he said.

The second opportunity for growth for the soybean industry is to increase the share of the protein meal fed, he pointed out.

"Most recent estimates are that soybean meal currently makes up 17% to 18% of the average manufactured feed ration. With limitations on other sources of protein, it is going to require at least 14 million tons of soybean meal just to supply the feed manufacturer," he said. "Add to this another 2 million tons for other feed uses and we come up with 16 million tons. This would require about 680 million bushels of beans. When we include the seed and export requirements, we can see around 870 million bushels of soybeans needed by 1975."

Soybean Oil Surplus

To supply this much meal, however, brings up the problem of disposal of soybean oil, he said. This must be disposed of through international trade. He pointed out that the fats and oils consumption of the 16 European countries in 1957 was 56.6 lb. per capita—7.2 lb. less than the average American consumed.

"By increasing the consumption of these 16 countries to the U.S. level would mean an additional requirement of more than 36,000 tanks per year not allowing for any increase in population," he said.

He pointed out further that per capita consumption in India and Pakistan is probably less than 15 lb. If this could be raised 5 lb. per person, it would mean an increase of slightly over 40,000 tanks per year.

Meal demand will also expand in other parts of the world, he said. Better living standards and increased purchasing power in other parts of the world will bring this about.

Mr. Rowland's address was read to the convention by A. V. Couch, manager, Ralston Purina Co., Iowa Falls, Iowa.

Price Outlook

The price outlook for the soybean industry in the coming year was discussed by Dr. G. L. Jordan, agricultural economist at the University of Illinois. He said he expects to see these developments:

1. A 1958 crop of not more than 510 million bushels.
2. Excellent demand for meal based on increasing hog numbers and a continued appreciation of the value of meal as feed.
3. Pressure on the prices of fats and oils as the result of large supplies, steady per capita consumption in the U.S. and no significant increase in export demand.
4. An annual crush that will leave only a modest carryover Oct. 1, 1959.
5. Much less seasonal variation in prices of both oil and meal than occurred in 1957-58.

"I also expect soybean prices to hover near the loan value," he said. "If the price declines much below the loan value as the result of heavy marketings at harvest I should expect it to recover in a few weeks after harvest is completed to near the loan value."

Dr. Jordan estimated the soybean farm prices for the coming year at $2.06 bu. if production reaches 536 million bushels, $2.11 bu. if production goes to 525 million bushels or $2.21 for production of 500 million bushels. These figures are based on an estimated value of $1,107 million for the 1958 U.S. soybean crop.

Meal Prices

"Because of the more favorable outlook for meal in the coming year than for oil I am estimating that the meal fraction of the combined oil and meal value will be 52.5% and the oil value 47.5%," he said.

Using the farm price figures arrived at earlier and adding 35¢ bu. for estimated marketing and processing margins, he had per-bushel values of $2.41 to $2.56 bu. This gave him the following meal and oil prices: For production of 536 million bushels, meal $52.70, oil 10.4¢; for 525 million bushel production, meal $53.80, oil 10.6¢; for 500 million bushel production, meal $56, oil 11¢. (Meal prices are per ton, bulk, Decatur, and oil prices are per lb., tank cars, midwestern mills.)

Dr. Jordan said Dr. T. A. Hieronymus of the University of Illinois agricultural economics staff estimates a meal price of $55 ton based on a crush of 355 million bushels and using these factors: (1) the production of soybean meal, (2) sales of commercial feeds, weighted by kinds of feed, and (3) the index of livestock and livestock product prices. Dr. Hieronymus got a fairly high correlation of past behavior of these factors and soybean meal prices, Dr. Jordan said.

Taking a look at the export market, Dr. Jordan said only a modest increase is expected in western European requirements. The forecasted prices are based on the assumption that as much fats and oils will be exported for dollars and under PL 480 as is expected in the current crop year.

"Any failure to provide a good export outlet would result in a substantial lowering of the price of soybean oil and would force a large quantity of beans into CCC stocks," Dr. Jordan said. "Assuming a good export outlet, I believe that we can use a 500-525-million-bushel crop without building up burdensome stockpiles in the hands of CCC."

DECLARES DIVIDEND

NEW YORK—A dividend of 5¢ a share was declared Aug. 25 on the outstanding common stock of Commercial Solvents Corp., payable Sept. 30, 1958, to stockholders of record at the close of business on Sept. 5, 1958. The previous payment was 5¢ a share June 30, 1958.

MILESTONES

(Continued from page 8)

when fed at the level of 6 lb. per ton of feed which contained animal or vegetable fat. Feeding levels of 2 or 4 lb. per ton did not produce a significant change in growth compared with the basal diet.

Turkeys

A low energy (600 calories) all-mash pre-breeder diet for turkeys during the age period of 26 through 34 weeks did not affect subsequent production or hatchability according to a report from the Larro Research Farm.

Work at Ohio with small white turkeys indicated lysine to be the first limiting amino acid in a 14% protein diet fed from 8 to 16 weeks. This is further evidence of the need for more work dealing with specific amino acid requirements at different age and protein levels.

Supplementation of a turkey growing ration with 10% animal tallow in a 16% growing ration from 20 to 24 weeks of age significantly improved carcass finish and weight gain. This type of feeding program is valuable in finishing male turkeys for market at an early age.

Feeder space required by heavy white turkeys did not appear to be more than 1.5 linear inches to 16 weeks of age and 2 from 16 to 24, according to an Ohio study. Small type turkeys grew satisfactorily to 8 weeks on only 0.5 linear inch per bird.

FDA BILL

(Continued from page 1)

ministering the law and clarify conditions under which new additives may be put into feeds.

Applications for new additives will be required under a standard procedure intended to show that the product is useful and can be used safely, with definite tolerances established. The burden of proof will be on the company making the application.

It is possible, under this procedure, that some substances which cannot be permitted under present regulations can be shown under the new procedure to be suitable for addition to feeds, Mr. Kneeland said.

Current regulations concerning applications for exemption from certification of antibiotics probably will not be affected by the new law, it is now believed. However, it could have some bearing on new drug applications.

Drug products presently being used in feeds generally will not be affected by the new amendment, Mr. Kneeland said.

The "serious failure" of present legislation to give full protection to feeders and consumers was cited in a speech by George Larrick, commissioner of food and drugs, at the Animal Health Institute meeting last spring.

The law, he said, does not require an ingredient of feed, other than a new drug or antibiotic, to be tested for safety before it is used.

Mr. Larrick at that time summarized the principles that his department felt should be followed in new legislation. The new amendment, Mr. Kneeland said this week, appears in general to satisfy these principles. They are:

1. The intended use of an additive in a food should be shown to be safe from the standpoint of long-term as well as short-term consumption before it is tolerated.
2. The use of a poisonous or deleterious additive should serve a purpose beneficial to the consumer. The purposeless addition of poisons to food should not be permitted.
3. Evidence to establish the above points should be secured by the person who wishes to promote uses of the additive and should be submitted to the government for evaluation. The proposed use should be permitted by the government only after a favorable decision by competent scientists.
4. There should be adequate provision for appeal of an adverse government decision to the courts according to procedures that permit full consideration of complex scientific questions by scientists. New, untried appeal procedures should not be experimented with in this field of public health protection.
5. Any additive already in use whose safety is not generally recognized should be tested to establish its safety. There should be a reasonable period of time after the new law goes into effect to permit such testing.

Mr. Kneeland indicated that further information concerning the new legislation will be issued by FDA after the bill is signed by the President.

Bartlett to Increase Storage Facilities

KANSAS CITY — A contract has been let by Bartlett and Company, Kansas City, for a substantial addition to its St. Joseph grain storage facilities. The addition will consist of four steel tanks with a total capacity of 1,350,000 bu., increasing the company's storage total at St. Joseph to 3,850,000 bu. The installation will be made by the Sapulpa (Okla.) Tank Co. and is scheduled to be completed about Oct. 15. The new capacity will increase the total grain storage facilities of Bartlett and Company to approximately 18 million bushels.

CAROLINA CONVENTION SCENES—Nearly 250 delegates turned out for the annual North Carolina Feed Manufacturers Assn. meeting held recently in Asheville. These pictures show some of the speakers at the meeting. In the first picture is Dr. B. H. Kinsey, president, North Carolina Veterinary Medical Assn., Raleigh, who spoke on working relationships between feed men and veterinarians. In the second picture (left to right) are: Ed Glennon, executive president of the American Feed Manufacturers Assn., Chicago; Gilbert Brauch, Ralston Purina Co., Charlotte, president of the North Carolina Feed Manufacturers Assn.; C. W. Tilson, Central Carolina Farmers Exchange, Durham, and Rom R. Watkins, National Gypsum Co., Charlotte Court House, Va., president of the North Carolina Feed Manufacturers Allied Assn. In the third picture Patrick B. Comer, management consultant and publisher of Labor Analysis and Forecast, Greensboro, discusses employee relations.

THE FEED MARKETS

★ ★ ★ ★

Demand — Supply — Trends — Prices

Quotations on feed ingredients shown in these and adjoining columns are wholesale prices, per ton, bagged, for prompt delivery, unless otherwise noted. They are the latest quotations available from Feedstuffs correspondents and are not necessarily those in effect on date of publication. The prices represent fair average trading values and do not necessarily represent extreme low or high levels at which individual sales might have occurred. A descriptive summary of supply and demand factors prevalent in the feed market appears on page 2.

A AND D FEEDING OIL

New York: Trend steady; price per lb. in 55-gal. drums (413-420 lb.) 300 ICU, 750 A 13½@15½¢, 1,500 A 15½@17¢, 2,250 A 17½@20¢, 3,000 A 19½@21¢; 600 ICU, 1,500 A 16@18¢, 2,250 A 18@19½¢, 3,000 A 20@21¢; f.o.b. Massachusetts, New York or Pennsylvania.

Chicago: Demand fair; supply adequate; straight A feeding oil with 10,000 units vitamin A per gram 7@8¢ a million units of vitamin A, l.c.l., packed in 55 gal. drums, f.o.b. Chicago, drums included.

Boston: Demand light; supply good; 600 D, 1,500 A, 18¢ lb.; 300 D, 2,250 A, 18½¢; 300 D, 1,500 A, 17¢; 300 D, 750 A, 15½¢.

Minneapolis: 10,000 A 35¢ lb.; 300 D, 2,250 A 21½¢ lb.; 300 D, 1,500 A 20½¢ lb.; 300 D, 75 A 18½¢ lb.

ALFALFA MEAL

Ft. Worth: Demand fair for dehydrated, good for suncured; supply sufficient for dehydrated, limited on suncured; 17% protein dehydrated $46, delivered Ft. Worth area, truck; Kansas dehydrated, 17%, 100,000 A $49, rail; suncured No. 1 13% protein ¼-in. grind, truck $40.

Portland: Demand good; trend higher; supply ample; suncured $39, dehydrated $65.

Chicago: Demand fair; supply adequate; 17% dehydrated, with 100,000 units vitamin A guaranteed $40.

Kansas City: Demand fair, good for high quality material; trend steady; supply adequate except for high quality meal; dehydrated alfalfa meal with 17% protein and 100,000 units vitamin A guaranteed on arrival $35@36, sacked, for unprocessed meal; 17%, 100,000 reground pellets $40, sacked; 17%, 100,000 pellets $32@35, bulk; 18% protein 125,000 A meal $45, sacked; some 13 to 16% protein pellets being sold at $26@27; suncured meal, unchanged, with demand slack, supplies adequate. No. 1 fine ground $34.50, No. 1 ¼-in. $31.50@32, No. 2 ¼-in. $29.50@31, sacked.

Los Angeles: Demand improved; trend firmer; supply limited; dehydrated pellet meal, 17% protein, 100,000 A $50@51; dehydrated meal, 17% protein, 100,000 A $48@49; suncured crumbles, 15% protein $44@46; suncured meal, 15% protein $42@44.

Cincinnati: Demand fair; trend steady; supply adequate; 17% dehydrated, 100,000 vitamin A $48.

Omaha: Demand slow; supply adequate; 17% dehydrated, 100,000 A units, bulk pellets $32; sacked meal $37, Omaha basis.

New Orleans: Demand fair; trend steady; supply adequate; $47@47.50; pellets $44@46.

St. Louis: Demand slow; trend steady; supply ample; 13% fine suncured $38.50; dehydrated, 17%, 100,000 A $40.50.

Boston: Demand slow; supply light; dehydrated, 17% $52.50; suncured, 13% $51.50, nominal.

Philadelphia: Demand slow; supply fair; 17% dehydrated; $53.50.

Buffalo: Demand poor; trend steady to lower; supply adequate; $54, sacked, Boston.

Minneapolis: Steady trend; fair demand; adequate supply; reground pellets, 17%, 100,000 units vitamin A $45.50; granules and oil treated, bulk $43.50.

Seattle: Demand fair; trend firmer; supply good; 15% protein suncured $43, delivered truck loads; 136,000 A unit dehydrated $69, delivered truck loads.

Memphis: Demand fair; trend higher; supply scarce; dehydrated, 17% protein, guaranteed 100,000 units vitamin A $44.

ANIMAL FATS (STABILIZED)

Ft. Worth: Demand good; supply light; prime tallow, tank cars 7¾¢ lb.; drums 9¾¢ lb., f.o.b. northern Texas packing plants with returnable drums.

Kansas City: Demand lighter than it has been; trend steady; supply adequate; bleachable fancy tallow 7¾¢ lb., tank car.

Chicago: Demand fair; supply adequate; bleachable fancy tallow, tank truck or carlots 7¾¢ lb.; yellow grease 7@7¼¢ lb.

Louisville: Demand slow; trend steady; supply good; bleachable fancy 8¢ lb.; white tallow 8¼¢ lb.; yellow grease 6¼¢ lb.

San Francisco: Demand fair; supply ample; bleachable fancy 9¾¢ lb.; yellow grease 7¢ lb.

New Orleans: Demand good; trend steady; supply adequate; 8⅛@8¾¢ lb., tank cars.

St. Paul: Steady trend; quiet pre-holiday demand; bleachable fancy tallow 7¾¢ lb., f.o.b. producer's plant.

BARLEY FEED

Portland: Demand slow; trend weak; supply ample; rolled $59, ground $57.

Baltimore: Demand good; supply light; $46.50.

Chicago: Demand good; supply light; $36.

Los Angeles: Demand fair; trend steady; supply adequate; standard rolled $3.05 cwt.; standard ground $3.05 cwt.

Ogden: Supply normal; rolled $43@48; whole barley $37@42.

New Orleans: Demand slow; supply light; trend unchanged; $58@59.

Boston: Demand slow; supply adequate; $45.

Milwaukee: Demand good; supply fair; needles 90¢@$1 cwt.; ground screenings $24.

San Francisco: Demand fair; supply ample; rolled $59; ground $58.

Philadelphia: Demand slow; supply fair; pulverized $45.50.

Seattle: Demand fair; trend steady; supply good; $48, bulk, delivered, truck lots.

BENTONITE (SODIUM)

Cincinnati: Demand steady; supply adequate; f.o.b. Cincinnati, minimum 30-ton carlots: 80 granular $30.21; 200 mesh fine $29.96.

Chicago: Demand steady; supply adequate; f.o.b. Wyoming and South Dakota shipping points; granular 30 mesh $16.50; fine granular, 80 to 100 mesh $13.75; powder, 200 mesh $13.50, f.o.b. Belle Fourche, S.D., minimum 30-ton carlots; 80 granular $13.50 net; 200 mesh fine $13.25 net.

BLOOD FLOUR

Louisville: Demand slow; trend easy; supply good; $110@115.

BLOOD MEAL

San Francisco: Demand good; supply tight; $7.25 a unit of ammonia.

Louisville: Demand slow; trend easy; supply good; $110@115.

New Orleans: Demand good; trend steady; supply light; $122@127.

Chicago: Demand and supply fair; $140@145, guaranteed 80% protein.

Portland: Demand good; supply ample; trend unchanged; $120.

Ogden: Supply normal; $120 in 100-lb. bags, f.o.b. Ogden.

Los Angeles: Demand and trend steady; supply adequate; $7.50@7.75 a unit of ammonia.

BONE MEAL (STEAMED)

Chicago: Demand and supply fair; $75@85.

Ft. Worth: Demand fair; supply adequate; $35.

Portland: Demand steady; supply ample; trend unchanged; $95.

Los Angeles: Demand and trend steady; supply limited; imported $68, in 20-ton lots.

New Orleans: Demand good; trend unchanged; supply normal; $95@99.

San Francisco: Demand good; supply ample; $75.

Louisville: Demand slow; trend steady; supply normal; $85@90.

Cincinnati: Demand fair; trend steady; supply ample; $90 sacked, f.o.b. Cincinnati.

Boston: Demand and supply steady; $85.

Buffalo: Demand poor; trend steady; supply light; $90.

Seattle: Demand steady; trend easy; supply good; $82.50, ex-dock, truck lots.

BREWERS DRIED GRAINS

Los Angeles: Demand and trend steady; supply limited; $49 bulk, $53 sacked.

Chicago: Demand fair; supply adequate; 26% $46.50@47.

Ft. Worth: Demand fair; supply moderate; 26% $52.40, September.

Boston: Demand and supply steady; 22% and 26% $55.

Philadelphia: Demand slow; supply fair; $58.

Louisville: Demand good; trend steady; supply exhausted; $49.

St. Louis: Demand slow; trend steady; supply ample; $45.

Cincinnati: Demand fair; trend steady; supply adequate; $50.

Milwaukee: Demand good; supply fair; $46.

San Francisco: Demand fair; supply ample; $54.

New Orleans: Demand fair; trend steady; supply ample; 26% $51.50@53.

Buffalo: Demand and supply fair; trend steady; $48, bulk, Boston.

BREWERS DRIED YEAST

Portland: Demand good; supply ample; trend unchanged; 8½¢ lb.

Los Angeles: Demand and trend steady; supply limited; 10¢ lb. in 5-ton lots; 11¢ lb. in less than 5-ton lots.

Chicago: Demand good; supply limited; 10@11½¢ lb. in carlots; 10½@12½¢ l.c.l.

Omaha: 10½¢ lb.

Louisville: Demand good; trend steady; supply light; 10@10½¢ lb.

San Francisco: Demand fair; supply good; 10¢ lb.

Boston: Demand and supply steady; 10¢ lb.

Buffalo: Demand good; trend firm; supply limited; $9.95 cwt.

Seattle: Demand slow; trend steady; supply ample; $12 cwt.

St. Louis: Demand good; supply limited; 10¢ lb. in carlots; 11¢ lb. in ton lots; 12¢ lb. in less than ton lots.

Cincinnati: Carlots 10¢ lb.; 5-ton lots 11¢ lb.; ton lots 11½¢ lb.

Pittsburgh: Carlots 10¢ lb.; 5-ton lots 11¢ lb.; ton lots 11½¢ lb.

New Orleans: Carlots 10¢ lb.; 5-ton lots 11¢ lb.; ton lots 11½¢ lb.

New York: Carlots 9½¢ lb.; 10-ton lots 10¢ lb.; 5-ton lots 10½¢ lb.; ton lots 11¢ lb., f.o.b. New Jersey.

Milwaukee: Demand good; supply limited; 10½@11½¢ lb. in carlots; 10½@12½¢ lb., l.c.l.

BUTTERMILK-CONDENSED

Chicago: Demand light; supply adequate; $3.25@3.50 cwt. in carlots.

Ogden: Supply average; $4.40, 100-lb. drum.

Wichita: Demand good; supply insufficient; $2.85, 100-lb. barrel.

Los Angeles: Demand fair; trend steady; supply adequate; $5.25 cwt. in 100-lb. lots; $4.25 cwt. in 500-lb. lots.

Louisville: Demand slow; trend steady; supply normal; $4.25 cwt.

Boston: Demand slow; supply light; 3½¢ lb.

San Francisco: Demand fair; supply good; $5 cwt.

New Orleans: Demand slow; trend steady; supply ample; $4.25@4.50 cwt.

Philadelphia: Demand dull; supply light; $4.25 cwt.

CALCITE CRYSTALS AND FLOUR

(All prices net, including freight and tax)

New York: Crystals $15.28, flour $10.28.
Buffalo: Crystals $16.11, flour $11.11.
Toledo: Crystals $17.96, flour $12.96.
Boston: Crystals $16.63, flour $11.63.
Limecrest, N.J.: Crystals $10.50, flour $5.50.

CALCIUM CARBONATE

Chicago: Demand steady; supply adequate; fine grind, plain $9.54, 100-lb. bags; bulk, in hopper cars, fine grind $7.54; bulk in boxcars $8.04; granular grind $1 premium.

Los Angeles: Demand good; supply ample; trend steady; $10.25.

Cincinnati: Demand fair; trend steady; supply adequate; $8@9 cwt.

Seattle: Demand and trend steady; supply good; $14, ex-warehouse, truck lots.

Minneapolis: Fine grind, 50-lb. bag $12.25, 100-lb. bag $11.50; bulk, boxcar $10; bulk, hopper $9.50; coarse grind $1 premium, delivered Minneapolis.

CHARCOAL

Chicago: Demand quiet; supply adequate; poultry charcoal $106 ton in 50-lb. multiwalls.

Los Angeles: Demand and trend steady; supply ample; hardwood poultry $156 sacked in less than ton lots; $144.50 sacked in ton lots.

San Francisco: Demand steady; supply ample; $141.

Cincinnati: Demand good; trend steady; supply adequate; briquets $120, 25-lb. bags, f.o.b. warehouse, Cincinnati.

Boston: Demand and supply light; $100.

COCONUT OIL MEAL

Los Angeles: Demand improved; trend stronger; supply reduced; $73.

Portland: Demand fair; trend higher; supply limited; $73.

San Francisco: Demand fair; supply ample; solvent $63; expeller cake $73.

Seattle: Demand and trend steady; supply limited; $68.50, truck lots (Canadian).

COD LIVER OIL (FORTIFIED)

New York: Trend steady; price per lb. in 55-gal. drums (413-420 lb.): 300 ICU, 750 A 14½@15½¢, 1,500 A 15½@20¢, 2,250 A 18½@21¢, 3,000 A 21½@23¢; 600 ICU, 1,500 A 17½@19½¢, 2,250 A 20@22¢, 3,000 A 22@23¢; f.o.b. Massachusetts, New York or Pennsylvania.

Boston: Demand fair; supply good; 600 D, 2,250 A 21¢ lb.; 300 D, 2,250 A 20¢ lb.; 300 D, 1,500 A 17½¢ lb.; all f.o.b. New York.

CONDENSED FISH SOLUBLES

Los Angeles: Demand and trend steady; supply limited; 5@5¼¢ lb.

New York: Demand and supply fair; trend steady; 4¾@4⅞¢ lb., f.o.b. eastern shore.

Boston: Demand good; supply short; 4⅝@5¢ lb.

New Orleans: Demand light; supply limited; trend steady; $90@93, f.o.b. Gulf.

CORN GLUTEN FEED AND MEAL

(All quotations for all cities are sacked basis, bulk basis $5 less)

Minneapolis: Feed $49.80, meal $88.80.
Atlanta: Feed $55.98, meal $94.98.
Birmingham: Feed $54.64, meal $93.64.
Boston: Feed $54.84, meal $93.84.
Chicago: Feed $43, meal $82.
Cleveland: Feed $51.14, meal $90.14.
Denver: Feed $53.51, meal $92.51.
Ft. Worth: Feed $51.96, meal $90.96.
Indianapolis: Feed $48.36, meal $87.36.
Kansas City: Feed $43, meal $82.
Louisville: Feed $50.21, meal $89.21.
New Orleans: Feed $53.20, meal $92.20.
New York: Feed $54.43, meal $93.43.
Norfolk: Feed $53.71, meal $92.71.
Philadelphia: Feed $54.02, meal $93.02.
Pittsburgh: Feed $51.96, meal $90.96.
St. Louis: Feed $43, meal $82.

CORN OIL MEAL

Louisville: Demand slow; trend steady; supply ample; $50.45.

Cincinnati: Demand fair; trend steady; supply adequate; $51.

COTTONSEED OIL MEAL

Louisville: Demand slow; trend strong; supply normal; old process $73; new process $70.50.

Kansas City: Demand very slow since soy market broke to lower levels; trend steady; supply ample, with resale material being offered freely; solvent meal $64@65; old process meal $66@67.

Chicago: Demand and supply fair; hydraulic $63.50; solvent $62.50, basis Memphis.

Los Angeles: Demand limited; trend steady; supply ample; local production, 40% protein $56@58.

Ogden: Supply average; 41% $65@70.

Portland: Demand steady; trend unchanged; supply ample; $68.

Wichita: Demand slow; supply ample; 41% old process $64.50.

San Francisco: Demand good; supply ample; expeller $61.90; solvent $64.70.

New Orleans: Demand slow; supply adequate; trend steady; $79@82.50.

Omaha: Demand slow; supply adequate; 41% solvent $62, bulk, Omaha basis.

St. Louis: Demand slow; trend lower; supply fair; $67.

Cincinnati: Demand poor; trend lower; supply fair; old process $74.

Boston: Demand poor; supply spotty; $80.

Philadelphia: Demand slow; supply fair; $76.

Buffalo: Demand poor; trend lower; supply adequate; $75.50, sacked, Boston.

Memphis: Demand poor; trend lower; supply limited; prime 41% protein, old process $62; new process, 41% solvent $62.

Atlanta: Demand slow; trend weak; supply ample; 41% $66.50.

Seattle: Demand good; trend firm; supply limited; $73, delivered, truck lots, 41% expeller process.

CURACAO PHOSPHATE

New York: Trend steady; ground Curacao phosphate in 100-lb. bags $48, f.o.b. cars or trucks, New Orleans, Jacksonville, Fla., or Philadelphia.

D ACTIVATED ANIMAL STEROL, POWDERED

Cincinnati: Demand fair; trend steady; supply ample; 1,500 ICU 11@12¢ lb.; 3,000 ICU 18¢ lb., warehouse.

New York: Trend steady; price per lb. in 50- and 100-lb. bags or 100 lb. drums: 1,500 ICU 8@12¢ bagged, 12@13¢ drums; 3,000 ICU 13@17¢ bagged, 17@18¢ drums; f.o.b. or delivered basis Pennsylvania, Delaware or New York.

Kansas City: Demand fair; trend steady; supply ample; 1,500 ICU 9½@10¢ lb.; 3,000 ICU 11½@12¢ lb. in ton lots or larger.

D ACTIVATED PLANT STEROL, POWDERED

Chicago: Demand good; supply moderate; 4,000,000 U.S.P. units per lb., 15¢ lb. in ton lots; less than ton lots 17¢ lb.; 12,000,000 units per lb., 5 tons to a carload 28¢ lb., ton lots and less 30¢ lb.

DEFLUORINATED PHOSPHATE

Tupelo, Miss.: Minimum phosphorus 13%, minimum calcium 31%, maximum fluorine .12%, $51 net ton, f.o.b. Tupelo in 100-lb. multiwall bags, $48 in bulk.

Wales, Tenn.: Minimum phosphorus 18%, minimum calcium 33%, maximum calcium 36%, maximum fluorine .18% $69.12 net ton, f.o.b. Wales in 100-lb. multiwall bags, $3 less in bulk.

Houston: Minimum phosphorus 19%, minimum calcium 32%, maximum calcium 35%, maximum fluorine .19% $71.50, net ton, f.o.b. Houston, 100-lb. multiwall paper bags; $68.50 in bulk.

Coronet, Fla.: Minimum phosphorus 17%, minimum calcium 34%, maximum fluorine .17%, carload $60, truckload $60.75, net ton, f.o.b. Coronet in 100-lb. multiwall bags, $57 and $57.75 in bulk.

Cincinnati: 18% phosphorus $81 sacked; 13% phosphorus $64.98 sacked; f.o.b. Cincinnati.

DICALCIUM PHOSPHATE

Texas City, Texas: 18.5% minimum phosphorus, 21% minimum calcium, 24% maximum, 0.11% maximum fluorine, granular $77.70 net ton, f.o.b. Texas City in 100-lb. multiwall bags; bulk, boxcars and hoppers, $3 net ton less than bagged material.

Columbia, Tenn.: Minimum phosphorus 18½%, minimum 25% calcium, maximum .01% fluorine guaranteed $83.25, f.o.b. Columbia, in 100-lb. multiwall bags; freight equalized with nearest producing point, carload basis; bulk $3 ton less.

Chicago: Stock food grade, 18.5% phosphorus, 20,000 lb. or more $83.25 net ton in 100-lb. papers, basis Chicago Heights, Ill., or Nashville, Tenn.; less than 20,000 lb. $93.25; 21% phosphorus, 20,000 lb. or more, $94.50, basis Chicago Heights and Nashville; less than 20,000 lb. $104.50; bulk boxcars or hoppers $3 net ton less than bagged material.

Bonnie, Fla.: Minimum phosphorus 18½%, granular $83.25; freight equalized with closest producing point, carload basis.

Minneapolis: 18.5% phosphorus, 24% calcium granular or fine ground $94.10, delivered; $3 less in bulk.

Trenton, Mich.: Minimum phosphorus 18½%, maximum fluorine .03% guaranteed $83.25, f.o.b. Trenton in 100-lb. multiwalls; minimum phosphorus 21%, maximum fluorine .03% guaranteed $94.50, f.o.b. Trenton in 100-lb. multiwall bags.

Portland: Demand good; supply ample; trend unchanged; $115.

Cincinnati: 18½% phosphorus $92@93.

DISTILLERS DRIED GRAINS

Cincinnati: Demand fair; trend steady; supply adequate; by truck $64.

Louisville: Demand good; trend weak; supply light; bourbon grains: light $59, dark $61, solubles $77.

San Francisco: Demand fair; supply ample; $85.

Buffalo: Demand and supply fair; trend lower; $67, bulk, Boston.

Seattle: Demand fair; trend firm; supply limited; $63, delivered, truck lots.

DRIED BEET PULP

San Francisco: Demand good; supply fair; $47.15.

New Orleans: Demand slow; trend steady; supply ample; $63.50@66.

Milwaukee: Demand good; supply fair; molasses $57, plain $60, both nominal.

Boston: Demand cautious; supply ample; new crop $59.90.

Ogden: Supply average; $38@42.

Los Angeles: Demand and trend steady; supply ample; molasses $48.25@50.

Ft. Worth: Demand slow; supply sufficient; carlots, 50-lb. papers, molasses $59, plain $66.50, new crop O-N-D plain or molasses $58.65.

Portland: Demand good; trend firm; supply limited; $50.

Atlanta: Demand slow; trend steady; supply ample; $63.95, October-November-December.

Buffalo: Demand fair; trend lower; supply adequate; $57, sacked, Boston.

Seattle: Demand slow; trend steady; supply good; $45, delivered, carlots.

DRIED BUTTERMILK

Ogden: Supply average; $7.25, 100-lb. bag.

Chicago: Demand and supply fair; medium acid $9.75@10.25; sweet cream $10@10.50 cwt. in carlots.

Los Angeles: Demand good; trend steady; supply limited; 11¢ lb.

New Orleans: Demand slow; trend unchanged; supply adequate; $9.50@10.25 cwt.

San Francisco: Demand fair; supply ample; 11¢ lb.

Louisville: Demand slow; trend steady; supply normal; 11@11½¢ lb.

Milwaukee: Demand and supply fair; $10 cwt.

Boston: Demand good; supply tight; 11¢ lb.

Buffalo: Demand good; trend firmer; supply very limited; $11.25 cwt.

DRIED CITRUS PULP

San Francisco: Demand good; supply fair; meal $52.

New Orleans: Demand good; trend steady; supply adequate; $51.25@55, f.o.b. Florida.

Los Angeles: Demand good; trend steady; supply moderate; orange pulp: $41 bulk, $46 sacked; lemon pulp: $39 bulk, $44 sacked.

Atlanta: Demand good; trend steady; supply limited; $56.50; meal $52.50.

Buffalo: Demand fair; trend steady; supply adequate; $48.50, sacked, f.o.b. Florida points.

DRIED SKIM MILK

Ogden: Supply average; $15.15, 100-lb. drum.

Chicago: Demand and supply fair; $10@10.50 cwt. in carlots.

Los Angeles: Demand fair; trend steady; supply limited; $14 cwt. in less than ton lots; $13.75 cwt. in ton lots.
Cincinnati: Demand fair; trend steady; supply adequate; 10½@11¢ lb.
New Orleans: Demand slow; trend steady; supply ample; $12@12.50 cwt.
Milwaukee: Demand and supply fair; 11¢ lb.
Louisville: Demand slow; trend steady; supply ample; 11@12¢ lb.
San Francisco: Demand and supply fair; 13½¢ lb.
Philadelphia: Demand dull; supply light; $12.50 cwt.
Boston: Demand and supply fair; 11¢ lb. in carlots.
Portland: Demand good; trend firm; supply limited; 13¢ lb.
Buffalo: Demand good; trend steady; supply ample; spray $10.65 cwt.; roller $11.50 cwt.
Minneapolis: Steady trend; fair demand; tight supply; $10.75@11 cwt.

DRIED WHEY

Ft. Worth: Demand fair; supply adequate; carlots, standard $5.75 cwt., sacked, delivered Ft. Worth or any Texas point; $5.85 ton lots, f.o.b. warehouse, Ft. Worth.
Kansas City: Demand fair; trend steady; supply ample; $5.25 cwt., producers' points for regular and partially delactosed; regular in scarce supply because of light production.
Chicago: Demand fair; supply adequate; $5.25 cwt., f.o.b. plant.
Los Angeles: Demand and trend steady; supply ample; $5.90 cwt. in carlots; $6.15 cwt. in l.c.l.
Ogden: Supply normal; $6.90, 100-lb. bag.
Portland: Demand good; trend firm; supply limited; $6.05 cwt.
Cincinnati: Demand fair; trend steady; supply adequate; $5.35 cwt.; sweet $5.75 cwt.
New Orleans: Demand slow; trend firm; supply adequate; $5.75@6 cwt.
San Francisco: Demand steady; supply good; $5.50 cwt.
Louisville: Demand slow; trend steady; supply ample; 6@6¼¢ lb.
Philadelphia: Demand dull; suppy light; $6.25 cwt.
Boston: Demand steady; supply plentiful; $5.75 cwt.
Seattle: Demand and trend steady; supply good; $6.40 cwt., ex-warehouse, l.c.l.
Minneapolis: Steady trend; fair demand; fair supply; $5.40@5.60 cwt. Other sources quote $5.25 cwt., f.o.b. producers' points for both regular and partially delactosed.

FEATHER MEAL (HYDROLYZED)

Boston: Demand steady; supply spotty; $90, f.o.b. eastern shipping points.
Ft. Worth: Demand good; supply very limited; 85%-87% protein $115, f.o.b. trucks, north Texas plants.
Los Angeles: Demand very good; trend steady; no offerings; $1.25 unit of protein.
Salisbury, Md.: Steady trend; strong demand; limited supply; $95 bulk, f.o.b. plants.
Atlanta: Demand fair; trend steady; supply ample; $96.50, f.o.b. Alabama and Georgia producing points.

FISH MEAL

Chicago: Demand slower; supply improving; eastern menhaden fish meal, 60% protein $136@138; western blended, 60% protein $132; Gulf $136; Northwestern herring-salmon blend $135; Canadian herring, 73% protein $2.40 a unit of protein subject to production.
Los Angeles: Demand and trend steady; supply ample; local production, 60% protein $2.25@2.30 a unit.
Ft. Worth: Demand urgent; supply critical; 60% protein $157.50, f.o.b. Houston.
Portland: Demand good; supply firm; trend unchanged; $2.40 a unit protein.
Ogden: Supply normal; $2.20 a unit, f.o.b. Coast; 65% $151@153.

FEED INGREDIENTS
Fish Meal • Scrap • Solubles
Bigelow Sales Company
10 Bridge St. NEW YORK 4, N.Y.
Tel. HAnover 2-9195

Milwaukee: Demand good; supply fair; 60% $157.50.
Cincinnati: Demand fair; trend lower; supply adequate; $146.60.
Louisville: Demand dull; trend steady; supply light; $150@155.
San Francisco: Demand fair; supply ample; imported fish meal $2.30 a unit of protein.
New Orleans: Demand light; trend steady; supply limited; menhaden 60% $138.50@139.50; scrap $131@132, f.o.b. Gulf.
Atlanta: Demand fair; trend strong; supply limited; 60% $147.50.
Seattle: Demand good; trend firmer; supply limited; $2.40 a unit protein, ex-dock, Alaska herring.
Buffalo: Demand fair; trend firm; supply very limited; 60% protein, menhaden $155 bulk, $160 sacked.
Minneapolis: Steady trend; fair demand; supplies tight; 60% meal $165; no West Coast herring available.
Boston: Demand active; supply very tight; $135.

HAY

Cincinnati: Demand fair; trend steady; supply adequate; No. 1 timothy $23.50; No. 1 second cutting green alfalfa $25; mixed $27; wheat or oat straw $20.
Louisville: Demand very slow; trend weak; supply normal; No. 1 hay, any variety, local $23@25, No. 2 $20@22; straw $18@20.
Boston: Demand slow; supply improving; new crop No. 2 timothy $41@43.
Portland: Demand good; supply ample; trend firm; $25.
Ogden: Supply normal; $1 bale; $12 ton in field; $17 in barn.
Ft. Worth: Demand fair for alfalfa, practically nil for prairie and Johnson grass; supply sufficient; carlots, baled, No. 1 alfalfa $36@38, No. 2 $34@35; prairie No. 2 $26@28; No. 2 Johnson $24@26 delvd. Texas common points.
Wichita: Demand poor; supply sufficient; prairie $12@15; alfalfa $12@15.
Los Angeles: Demand slow; trend steady; supply ample; U.S. No. 1 $29@31; U.S. No. 2 leafy $26@28; U.S. No. 2 green $26@27; U.S. No. 2 $24@25.
Seattle: Demand slow; trend firm; supply good; alfalfa, U.S. No. 2 green $27, delivered truck lots.

HOMINY FEED

Kansas City: Demand slow; trend steady to weak; supply adequate; yellow $38@40 bulk, $3.50 more for sacks; white at $1 less.
Chicago: Demand fair; supply adequate; $49.50@50.
New Orleans: Demand fair; trend weak; supply light; $55.50@56.
Milwaukee: Demand good; supply tight; $51.
Louisville: Demand slow; trend easy; supply ample; $53.
Cincinnati: Demand fair; trend lower; supply adequate; $52.50.
St. Louis: Demand fair; trend lower; supply limited; yellow $49.
Boston: Demand fair; supply good; $60.50.
Memphis: Demand nil; trend steady; supply ample; white $54, yellow $54.
Buffalo: Demand poor; trend lower; supply fair to good; $55, bulk, Boston.
Seattle: Demand fair; trend steady; supply limited; $61.

LINSEED OIL MEAL

San Francisco: Demand fair; supply ample; $69.
New Orleans: Demand slow; supply limited; trend steady; $77.50@78.
Louisville: Demand slow; trend weak; supply ample; old process $74.40; new process $67.40.
Cincinnati: Demand poor; trend steady; supply adequate; new process $66; old process $77.
Milwaukee: Demand good; supply fair; old process $66; new process $59.
Omaha: Demand fair; supply limited; 34% solvent $54.80, bulk.
Boston: Demand and supply light; $77.
Philadelphia: Demand and supply fair; 34% $71.50.
Los Angeles: Demand limited; trend easier; supply increased; local production, 29% protein $60@61.
Chicago: Demand fair; supply adequate; solvent $53; expeller $59.50, basis Minneapolis.
Kansas City: Demand slow; trend steady; supply adequate for demand; solvent meal $48.50@49.50, bulk, Minneapolis; old process meal $55.50 for September-December.
Ft. Worth: Demand slow; supply sufficient; carlots, 34% solvent, September $72.50, October-November-December $74.50; pellets $2.50 premium.
Wichita: Demand slow; supply ample; 34% $74.50.
Portland: Demand fair; supply ample; trend unchanged; $78.
Seattle: Demand fair; trend firm; supply limited; $78 carloads, 34% protein.
Minneapolis: Firmer trend; fairly good demand; adequate supplies; new process $49.50 bulk, old process $56 bulk.

MALT SPROUTS

Chicago: Demand fair; supply adequate; No. 1 $38.50.
Cincinnati: Demand fair; trend steady; supply adequate; No. 1 $45.
Milwaukee: Demand good; supply fair; odd weights $38.50; even weights $40.
New Orleans: Demand fair; trend steady; supply ample; $41@43.50.
Boston: Demand and supply limited; $42.50, nominal.

MEAT AND BONE MEAL

Cincinnati: Demand and supply fair; trend easy; 50% meat and bone scraps $112, sacked, f.o.b. Cincinnati.
San Francisco: Demand good; supply fair; $2 a unit of protein.
Louisville: Demand slow; trend easy; supply good; $105@110.
St. Louis: Demand slow; trend lower; supply limited; 50% $113.
Omaha: Demand slow; supply ample; $115.
New Orleans: Demand good; trend steady; supply adequate; $127@129.
Boston: Demand fair; supply ample; $1.70 a protein unit; converted, 50% $92.50.
Chicago: Demand fair; supply adequate; 50% protein $112.50@117.50.
Los Angeles: Demand and trend steady; supply limited; 50% protein $2.35 a unit.
Wichita: Demand good; supply insufficient; 50% $130, f.o.b. plant; 55%, no quotations, no offerings.
New York: Demand and supply fair; trend lower; 50% $92.50, 55% $102.50, bulk; 50% $95.50, 55% $105.50, sacked.
Ft. Worth: Demand fair; trend lower; supply extremely light; meat and bone, 50% $118@120, f.o.b. or delivered Ft. Worth.
Portland: Demand slow; trend lower; supply ample; $2.15 a unit protein.
Ogden: Supply average; $117.50 in 100-lb. bags.
Kansas City: Demand fair; trend steady for the moment but weakness expected; supply adequate but not plentiful; 50% meat and bone scraps $115@117.50.
Seattle: Demand good; trend firmer; supply fair; $112.50, ex-warehouse, 50% protein.
Buffalo: Demand and supply light; trend easy; 50% meat scraps $105 bulk, $110 sacked.
St. Paul: Weaker trend; demand on increase at week end; ample supplies; 50% meat and bone $112@122.

MILLFEED

Minneapolis: Weak trend; very light demand; large supply; bran $30@31, middlings $30, flour midds. $40@45, red dog $41@52.
Kansas City: Demand slow; trend steady; supply adequate with some bulk feeds pressing; bran $29@29.75, shorts $32.50@33.25, sacked; bran $25.50@26.25, middlings $27@27.75, shorts $29@29.75, bulk.
Wichita: Demand fair to good; supply sufficient; basis Kansas City; bran $29.25@29.75, shorts $32.75@33.25; bran and shorts declined $1.50 compared with the preceding week.
Omaha: Demand slow; supply ample; sacked bran $30.50; sacked gray shorts $33.50; bulk standard midds. $29, all Omaha basis.
Ft. Worth: Demand off; supply limited; carlots, burlaps, prompt, bran $38, gray shorts $42, delivered Texas common points; $2 lower on bran and shorts compared with previous week.
Chicago: Millfeed sales were slow as supplies were no longer pressing on the market. The slowed pace of formula feeds apparently was a factor in millfeed sales. Prices remained fairly stable to lower during the period. Quotations: bran $34.50@35, standard midds. $35.50@36, flour midds. $43@44, red dog $47@48.
St. Louis: Demand slow; trend steady; supply ample; bran $34.50@35, shorts $38@38.50, sacked; bran $30.50@31, shorts $34@34.50, middlings $32@32.50, bulk.
Cincinnati: Demand fair; trend steady; supply adequate; bran $40.50; middlings $41.50.
Boston: Demand cautious; supply adequate; bran $45@46; middlings $46@47.
Buffalo: A strike threat at grain elevators here put a damper on millfeed buying last week. Sales were quiet, with interest centered mostly in sacked bran and middlings. The bulk differentials again widened and there were spot supplies available, mostly bran. Bran $35.50@36.50, middlings $36@37.50, red dog $50@51.50; the bulk differential on bran widened out from $6@7 and on middlings from $6@6.50.
New York: Demand fair; trend lower; supply good; bran $41@42, standard midds. $44.50@45.50.
Philadelphia: Demand spotty; supply fair; bran $43; standard midds. $46; red dog $60.
New Orleans: Demand good; trend steady; supply sufficient; bran $42.50@43.25, shorts $46@46.75.
Louisville: Demand slow; trend easy; supply good; bran $40.60, mixed feed $42.85, brown shorts or gray $45.60, middlings $43.80.
Memphis: Demand fair; trend lower; supply ample; wheat bran $37, gray shorts $41, standard midds. $40.
Seattle: Demand good; trend firmer; supply limited; $42, delivered common transit points, carlots.
Portland: Demand strong; trend higher; supply limited; spot $48@49, September $43.
Ogden: Supply average; to Utah and Idaho: red bran and mill run $39, middlings $44; to Denver: red bran and mill run $46, middlings $51; to California: red bran and mill run $46.50, middlings $51.50, f.o.b. San Francisco and Los Angeles.
Los Angeles: Standard mill run $47@47.50, demand improved, trend stronger, supply reduced; red bran $47@47.50, demand limited; trend firmer; supply ample.
San Francisco: Demand fair; supply ample; millfeed $47; red bran $47.

MINERAL FEED

Sioux City: 50-lb. mineral blocks 8.2% phosphorus $92; 7.5% phenothiazine sheep mineral blocks $4 each.
Seattle: Demand fair; trend steady; supply good; mixer mineral $48, ex-warehouse; all-purpose mineral $85, ex-warehouse.

For DEHYDRATED ALFALFA —
"MERRY MIXER" GREENULES*

BETTER DISPERSION!
DUST-FREE! FREER FLOWING!
MORE UNIFORM!
CONSOLIDATED BLENDERS INC.
Fremont, Nebr. • Phone Park 1-9000
*TRADE MARK

FROM ICELAND
COD-LIVER-OIL
FROM ICELAND
VITAMIN-A-STABILIZED
MIDLAND WESTERN, INC.
160 W. SPRUCE ST., READING, PA.

FEED GRAINS
KAFIR-MILO
BARLEY - CORN - OATS - WHEAT
From Every Grain Producing Area in United States
CONTINENTAL GRAIN COMPANY

OFFICES:
New York, Chicago, Kansas City, St. Louis, Omaha, Columbus, Memphis, Norfolk, Nashville, Enid, Minneapolis, Louisville, Fort Worth, Buffalo, Toledo, Houston, Galveston, Portland, San Francisco, Vancouver, B.C., Winnipeg, Los Angeles

TERMINAL ELEVATORS:
Kansas City, St. Louis, Chicago, Buffalo, Omaha, Toledo, Columbus, Fort Worth, Portland, Boston, Galveston, Enid, Minneapolis, Norfolk, San Francisco, Nashville, Louisville, Memphis, Houston

San Francisco: Demand steady; supply good; all-purpose with iodine $70.

Ft. Worth: Demand fair; supply ample; all-purpose granules $89, block $94; mineral phosphorus 6% granules $105, block $110; cattle-sheep mineral 7% phosphorus granules $99, block $103; hog mineral phosphorus 3½%; granules $35, phosphorus 2% $78 (all in 50-lb. paper bags).

Portland: Demand good; supply ample; trend unchanged; $42.

Ogden: Supply normal; $110 in 50-lb. blocks; $98, granular, 50-lb. bags.

Wichita: Demand good; supply sufficient; all-purpose with iodine, 50-lb. blocks $95, 100-lb. bags $90, f.o.b. plant.

MOLASSES

Seattle: Demand fair; trend steady; supply good; $25, f.o.b. Seattle, tank car lots or truck lots.

Buffalo: Demand fair; trend steady; supply good; 18½¢ gal., f.o.b. Albany.

Los Angeles: Demand fair; trend steady; supply adequate; $25 bulk, f.o.b. tank cars; $25.25 bulk, f.o.b. tank trucks.

Kansas City: Demand slow; trend steady; supply ample; 14@14½¢ gal., tank car, New Orleans.

New York: Demand and supply good; trend steady; blackstrap 18¢ gal., tank cars, tank wagons, f.o.b. New York.

Cincinnati: Demand fair; trend steady; supply adequate; 14¼¢ gal., New Orleans.

San Francisco: Demand and supply good; $25, f.o.b. cars, Richmond, Cal.

St. Louis: Demand slow; trend steady; supply ample; 14¢ gal., New Orleans.

New Orleans: Demand slow; trend steady; supply ample; 18¢ gal., tank cars and trucks; 600-lb. customers' drums $9.62.

Louisville: Demand dull; trend steady; supply normal; tank car lots, f.o.b. Gulf ports 14¼¢ gal.

Boston: Demand steady; supply plentiful; 18½¢ gal. in tank cars.

Ft. Worth: Demand fair; supply sufficient; blackstrap 16¢ gal., f.o.b. Houston; delivered Ft. Worth, truck $35.06, seller's market price on date of shipment.

Memphis: Demand slow; trend steady; supply adequate; blackstrap 14¢ gal., tank car, f.o.b. New Orleans and $30 ton, delivered Memphis, truck.

Atlanta: Demand good; trend steady; supply extremely limited; citrus $22.50, bulk, f.o.b. Florida producing points, immediate.

Minneapolis: Steady trend; fair demand; ample supply; 14¼@14½¢ gal., f.o.b. New Orleans; $34.50 ton, f.o.b. terminal.

NIACIN

New York: Trend steady; $8 kilo, 10-kilo lots; $8.20 kilo, 5- and 2½-kilo lots; $8.30 kilo, 1-kilo lots; freight prepaid or paid to destination.

OAT PRODUCTS

Seattle: Demand fair; trend steady; supply ample; $48, bulk, delivered, truck lots.

Minneapolis: Firmer trend; fair demand; ample supplies; feeding rolled oats $75@78; pulverized $42; feeding oatmeal $66.50; crimped oats $66.50; reground oat feed $15@17.

Cincinnati: Demand fair; trend steady; supply adequate; reground oats $22; pulverized white oats $49; rolled oats $55.

Louisville: Demand slow; trend weak; supply ample; reground $20.80, rolled $81.30, feeding $75.30, pulverized $49.80, crimped $64.30.

Boston: Demand fair; supply adequate; white pulverized $56, ground mixed $45.45, reground oat feed $20.

Philadelphia: Demand slow; supply fair; pulverized white $53.50; domestic oat feed $25.50; Canadian oat feed $30.

Chicago: Demand fair; supply adequate; reground oat feed $13@13.50; fine ground feeding oatmeal $68; feeding rolled oats $74.

Los Angeles: Demand fair; trend improved; supply adequate; pulverized, local production $60.

Ft. Worth: Demand slow; supply sufficient; oat millfeed $45.70; reground oat millfeed, 3% protein, sacked $22.70.

Portland: Demand slow; trend lower; supply ample; rolled $62, ground $59, cleaned $60.

Memphis: Demand poor; trend steady; supply ample; 3⅛% protein, reground oat feed $21.

OYSTER SHELL

Portland: Demand good; supply ample; trend unchanged; western $32, eastern $38, granite grits $26, shell flour $24.

Seattle: Demand and trend steady; supply good; eastern $36, delivered, carlots.

Los Angeles: Demand and trend steady; supply adequate; $14.80.

San Francisco: Demand fair; supply ample; local $15, eastern $26.

Louisville: Demand good; trend steady; supply normal; in 80-lb. paper bags $22.85, in 50-lb. paper bags $23.10, in 25-lb. paper bags $25.35.

Cincinnati: Demand fair; trend steady; supply adequate; $21.75.

New Orleans: Demand good; trend steady; supply plentiful; $14.80@15.

Boston: Demand and supply steady; $25 in paper.

PEANUT OIL MEAL

Milwaukee: Demand and supply fair; 26% $42.50.

Atlanta: Demand slow; trend weak; supply ample; 45% $66.

PEAT MOSS

San Francisco: Demand fair; supply ample; $3.75 bale.

Boston: Demand and supply steady; $3.15 bale in carlots.

Philadelphia: Demand slow; supply light; $2.85 bale, f.o.b. pier.

Chicago: Demand light; supply ample; $3.60@3.70, standard 7½ cu. ft. bale.

Los Angeles: Demand and trend steady; supply adequate; Canadian 6.1 cu. ft. bales $3.85.

Seattle: Demand fair; trend easy; supply good; $2.70 bale, delivered, truck lots.

Portland: Demand slow; supply ample; trend unchanged; $3.25 bale.

POTASSIUM IODIDE, U.S.P.

New York: Trend steady; granular or crysals $1.90 lb. in 250-lb. drums, $1.92 lb. in 100-lb. drums, $1.95 lb. in 25-lb. drums; 90% KI in calcium stearate or carbonate mixtures, $1.81 lb. in 250-lb. drums or 200-lb. lots, $1.83 lb. in 100-lb. drums, $1.86 lb. in 25-lb. drums; f.o.b. New York, New Jersey or Pennsylvania; freight allowed to destination on 100-lb. drums or larger packings.

Cincinnati: Demand good; trend steady; 90% KI in calcium stearate or carbonate mixtures, 250-lb. drums $1.81; 200-lb. in 100-lb. drums $1.83; 25-lb. drums $1.86, f.o.b. Cincinnati.

Chittenango: Trend steady; 90% KI stabilized with calcium stearate, 200-lb. in 100-lb. cartons $1.35; 100-lb. cartons $1.36; freight prepaid to destination.

POULTRY BY-PRODUCTS

Boston: Demand fair; supply improving; $110.

Ft. Worth: Demand good; supply very limited; 55% protein $122, f.o.b. north Texas plant.

Los Angeles: Demand good; trend easier; supply limited; $1.95 a unit of protein.

Salisbury, Md.: Steady trend; strong demand; limited supplies; $102, bulk, f.o.b. plants.

Atlanta: Demand fair; trend steady; supply ample; $116, f.o.b. Alabama and Georgia producing points.

RIBOFLAVIN

New York: Trend steady; feed grade (in feed supplements) 4⅛¢ gm. in 3.36 to 16 gm./lb. mixtures, freight prepaid or paid to destination.

Cincinnati: Trend steady; feed grade (in feed supplements) 4¢ gram in 3.36 to 16 gm./lb. mixtures, freight prepaid or paid to destination.

RICE BY-PRODUCTS

San Francisco: Demand fair; supply ample; bran $40.

Los Angeles: Demand fair; trend steady; supply limited; bran, California production, high fat content $52.

Ft. Worth: Demand fair; supply tight; carlots, rice bran, nominal $29@36, f.o.b. south Texas rice mills; hulls $2, f.o.b. mills.

Atlanta: Demand slow; trend steady; supply limited; bran $44.

SCREENINGS

Buffalo: Demand and supply fair; trend steady; ground, sacked $27.50, New York, L. & R.; unground, bulk $21, New York.

Chicago: Demand fair; supply adequate; ground grain screenings $30; Canadian, bulk $20.

Ft. Worth: Demand almost nil; supply sufficient; ground $28, nominal.

Cincinnati: Demand fair; trend steady; supply adequate; pulverized ground grains $34, sacked; Canadian $32, sacked; malt house $28, sacked.

Minneapolis: Firmer trend; stocks not quite as ample; more interest indicated; lights $2@10, mediums $11@15, heavies $16@30; Canadian ground $20; Canadian bulk $13.50; flaxseed screenings $28; oil type flaxseed screenings $35, basis 15%.

SOFT PHOSPHATE WITH COLLOIDAL CLAY

Atlanta: $20.40@20.67.
Buffalo: $25.31@25.45.
Chicago: $24.77@24.90.
Cincinnati: $23.47@23.60.
Des Moines: $25.23@25.35.
Kansas City: $24.88@25.
Memphis: $22.20@22.47.
Minneapolis: $25.92@26.06.
Philadelphia: $24.32@24.95.
St. Louis: $24.14@24.27.

SORGHUMS

Ft. Worth: Demand fair; supply sufficient; carlots, bulk, No. 2 yellow milo $2.15@2.17 cwt., delivered Texas common points.

Los Angeles: Demand and trend steady; supply ample; milo $2.35 cwt., bulk.

SOYBEAN OIL MEAL

Atlanta: Demand fair; trend strong; supply limited; 44% $78.50.

Memphis: Demand good; trend lower; supply limited; prime 44% solvent $68.50.

Seattle: Demand steady; trend weak; supply ample; $56, carlots.

Minneapolis: Firm trend; good demand; adequate supply; 44% $62.50, bulk, Minneapolis; $50 bulk, Decatur; 50%, last half September $72 bulk, Minneapolis.

Kansas City: Demand fair; trend steady; supply on the shy side, with not a lot being offered, probably due to shut down of a number of mills for repairs; meal for Kansas City and western shipment $53.50@55, bulk, Decatur; unrestricted meal $60.

Cincinnati: Demand and supply fair; trend higher; $59@59.50, bulk, Decatur.

New Orleans: Demand fair; trend weak; supply adequate; $76@76.75.

San Francisco: Demand fair; supply ample; $54.50.

Louisville: Demand slow; trend strong; supply ample; $70.20, up $4.

St. Louis: Demand slow; trend steady; supply adequate; 44% $69.

Omaha: Demand fair; supply tight; 44% $61, bulk.

Philadelphia: Demand spotty; trend unsettled; supply fair; 44% $56.50, bulk, Decatur.

Boston: Demand fair; supply adequate; 44% $55, 50% $66@67, both bulk, Decatur.

Los Angeles: Demand limited; trend firmer; supply moderate; $55@55.50.

Chicago: Soybean oil meal sales were light as buyers apparently had covered dwindling supplies and were content to await further developments. Supplies were adequate to the demand. Quotations: 44% protein soybean oil meal, unrestricted, bulk, Decatur $59@60; 50% $68.

Ft. Worth: Demand poor; supply sufficient; carlots 44% $76@77; truck delivery $75.

Portland: Demand fair; trend lower; supply ample; $48, f.o.b. Decatur, spot.

Ogden: Supply average; $81@86.

Wichita: Demand slow; supply ample; 44% $69, 50% $79, f.o.b. Wichita.

TANKAGE

Ft. Worth: Demand fair; supply extremely light; 60% digester $122@124, f.o.b. Ft. Worth.

St. Paul: Weaker trend; increase in demand late in week; ample supplies; 60% digester $115@122.

Wichita: Demand good; supply insufficient; $130, f.o.b. plant.

Chicago: Demand and supply fair; 60% protein $112.50@120.

Kansas City: Demand fair; trend steady for the moment though weakness is expected; supply adequate for demand but not plentiful; 60% digester $112.50@117.50.

Omaha: Demand slow; supply ample; $115.

Louisville: Demand slow; trend easy; supply good; 60% protein $110@115.

Cincinnati: Demand slow; trend easy; supply short; 60% digester $117.50, sacked, Cincinnati.

St. Louis: Demand slow; trend lower; supply limited; 60% $113.

New Orleans: Demand and supply good; trend steady; $135@137.

VITAMIN E FEED SUPPLEMENT

Cincinnati: Demand good; trend steady; any quantity in 100-lb. drums $1.70; in 25-lb. drums $1.75, freight allowed to destination.

New York: Demand and supply good; trend steady; 100-lb. drums $1.70 lb., 25-lb. drums $1.75, f.o.b. manufacturing plants, freight allowed and goods insured to destination.

Rochester, N.Y.: Demand and supply good; trend steady; 100-lb. drums $1.70 lb., 25-lb. drums $1.75, f.o.b. manufacturing plants, freight allowed and goods insured to destination.

WHEAT GERM MEAL

New Orleans: Demand good; trend strong; supply adequate; $93@95, cottons.

Buffalo: Demand fair; trend higher; supply poor; commercial grade $81, sacked, f.o.b. Buffalo.

Chicago: Firm trend; good demand; adequate supplies; $91.

Illinois Dairy Day To Feature Pellets

URBANA, ILL.—The latest information on hay pellets for dairy cattle will be one of the main exhibits on display at the seventh annual Dairy Day at the University of Illinois, Thursday, Sept. 4.

Dr. Karl Gardner of the dairy science department will discuss an exhibit showing the results of a seven-week experiment in which dairy cows were fed pelleted hay during the spring of 1958. Results show that the cows ate more of the pelleted hay than they did of the long hay, according to the university. The difference between the pelleted and long hay was greatest when the long hay was low in quality.

MANEY BROS.
MILL & ELEV. CO.
Minneapolis, Minnesota
Feed Ingredients of All Kinds
FORMULA MIXING FOR DEALERS
Excellent References

Mix high-profit feeds IN ONE OPERATION WITH Gorton's BLENDS
AL-FISH BLEND
MAR-VI-TIC BLEND
TURKEY BLEND
LAYER BLEND
PUT LIFE IN YOUR LIVESTOCK FEED with New Englander VITALIZER
For full details, write to
NEW ENGLAND BY-PRODUCTS CORP.
177 Milk Street • Boston 9, Mass. • HUbbard 2-1682

CHECKERBOARD — The Mark of Top Quality — Top Service
WABASH ELEVATOR
4,000,000 BUSHELS

MILO—CORN
ALL FEED GRAINS
CHECKERBOARD GRAIN CO.
BOARD OF TRADE BLDG. • KANSAS CITY, MO. • PHONE HA 1-1114
ST. LOUIS • CHICAGO • MINNEAPOLIS

IOWA

(Continued from page 6)

Marvin Anderson, associate director of the Iowa extension service, who will discuss building college-industry activities into an Iowa livestock program. The responsibility of the college in this respect and in relation also to poultry production will be discussed by Mr. Zmolek, and that of the industry by Dr. Ernest Bechtel, director of the Larro research farm of Indianola, General Mills, Inc.

Helping the farmer to understand nutrition will be the subject of talks by Dr. Norman L. Johnson and Dr. Burroughs, of the animal husbandry department, and Mr. Steinmetz, Pillsbury Mills. Dr. Catron will discuss the "why" of feed sales and V. C. Speer, also of the animal husbandry staff, will outline some swine management suggestions.

A college-industry poultry management program will be the topic of discussion by L. Z. Eggleton, professor of poultry marketing, and Dr. Stanley L. Balloun, associate professor of poultry husbandry.

Sales Aspects

As a climax to the program, the focus of attention will be turned on the feed salesman's problems, including a discussion by Thomas H. Lawrence, of Lawrence-Leiter & Co., Kansas City, on these questions:

How can the salesman "size up" varicus types of prospects he deals with? How can he make the right approach to each type? What has personal attitude to do with sales results? What is the "service factor" in selling, and how can the salesman be sure he is delivering it?

A Kansas City management consultant, Mr. Lawrence has had wide business experience and his sessions are known for their realistic values. According to Mr. Lawrence, every salesman can add greatly to his production through a deeper understanding of his own potentials and human behavior in general.

Dr. Walter Woods, Iowa State College animal husbandman in charge of program arrangements, said this year's college-industry sessions replace the annual Iowa Nutrition Conference. The nutrition conference was held for many years with feed industry associations and the college cooperating.

Conference Aim

The 1958 conference will aim at developing a program of college and industry cooperation in livestock activities. Educational work in livestock feeding is being done today by salesmen, Dr. Woods pointed out. It is important that the educational institutions help these salesmen acquire sound information for this educational work, and that the salesmen present the best available information, he said.

Dissemination of sound feeding and management information to farmers, Dr. Woods pointed out, is essential to the long-term success of the feed industry as well as Iowa's farmers. Emphasis will be on the educational responsibilities of the salesmen and the college working together for the advancement of Iowa's entire livestock and feed industry.

Hutton Firm Appoints New Memphis Manager

MEMPHIS, TENN.—Paul T. Gillespie has been appointed resident manager in Memphis for E. F. Hutton & Co., commodity and financial brokerage firm. He succeeds O. A. McFall, who becomes honorary office chairman. Walter T. Foster will serve as associate manager of the company.

At the same time, it was announced that the firm will move into a new location on the ground floor of the 81 Madison Building on or about Oct. 15. At present the company is in the Hotel Peabody.

Promotion Planned for Warfarin Rodenticide

MADISON, WIS. — "Operation 54,000,000" is the theme of the seventh annual Warfarin rodenticide advertising program of the Wisconsin Alumni Research Foundation to appear throughout the fall and winter months in 18 leading farm and rural community publications.

"Over 60,000 tons of Warfarin baits have been used since this effective rodenticide was introduced, but the job of eliminating rats and mice from our farms and cities is still far from done," states Ward Ross, the foundation's managing director. "Our 1958-59 educational advertising program has a fresh new theme, new ads and new publications. It should substantially stimulate the sale of Warfarin baits through retail farm outlets."

Warfarin is an anticoagulant type rodenticide which causes death to rats and mice by internal bleeding. It is formulated by leading rodent bait manufacturers, all of whom clearly display the word Warfarin on their packages.

As an organization not for private profit, the Wisconsin Alumni Research Foundation devotes substantially all royalties under its Warfarin patents to scientific research at the University of Wisconsin.

TURKEY CROP

(Continued from page 1)

that for the near future, prices have been sliding like a drop of coffee from a cup and they will eventually ride up to the other side of the saucer.)

One report from Washington says that "all things practical and political must add up to the conclusion that USDA will not permit the turkey industry to go through any violent price changing this fall marketing season."

The USDA turkey report stated that heavy breed turkeys raised total 65,776,000, compared with 67,833,000 raised in 1957. Decreases were 19% in the South Atlantic, 18% in the North Atlantic and 10% in the South Central states. These decreases were partially offset by an increase of 4% in the West North Central states. The number of heavy breed turkeys raised is about the same as a year ago in the East North Central and in the West.

Heavy white turkeys raised this year will be about 21% of all heavies, compared with 22% last year. By geographic regions, heavy whites as a percent of all heavies are 60% in the North Atlantic, 37% in the East North Central, 30% in the West North Central, 16% in the South Central, 11% in the South Atlantic and 2% in the West.

Light Breeds

Light breed turkeys raised total 12,129,000. Decreases occurred in all regions except the West North Central. Decreases were 49% in the West, 30% in the North Atlantic, 13% in the East North Central, 11% in the South Central and 4% in the South Atlantic. Light breed turkeys increased 12% in the West North Central states. Light breeds are 16% of the total raised this year, the same percentage as last year.

Turkeys raised during 1958 are from poults hatched September, 1957, through August, 1958. The turkey hatch January through May was 10% below last year. The hatch during June was 4% above June, 1957, and July hatch was one third larger than the previous year. Eggs in incubators Aug. 1 were 37% above a year earlier.

FEED FIRM CHARTERED

OKLAHOMA CITY — Consumers Feed Assn., Meeker, Okla., has been granted a charter. Incorporators are Mack Gallaway, Omer Woody and W. L. Fletcher, Meeker.

WISCONSIN

(Continued from page 7)

ness and highest mortality rate in raising young calves are encountered during the first few weeks of life when the calf is most susceptible to intestinal disturbances.

In studies at the Kansas station, calves were raised with and without Aureomycin from birth until first parturition. Aureomycin feeding stimulated growth, but at a decreasing rate, up to about six months of age. From six months until first calving, Aureomycin feeding did not stimulate growth. However, the heifers that had received Aureomycin from birth maintained their early weight advantage and were heavier at parturition.

The withdrawal of Aureomycin from the ration at an early age will result in a slowing down of growth rate. When the antibiotic is removed between 4-6 months of age the effect on growth rate is apparently negligible.

It has been found that growth was increased when calf starter supplied the only source of Aureomycin to young calves, but greater improvement was obtained if the antibiotic was provided by daily additions to milk from birth.

Antibiotics Needed Early

If calf ctarters containing antibiotics provide the only source of antibiotic for the calf, maximum benefits will not accrue since the calf will not consume enough starter to obtain sufficient antibiotic before the early critical period of the calf's life is past. A convenient and satisfactory manner in which to provide an antibiotic would be to feed commercial milk replacers containing 100 gm. of antibiotic per ton followed by calf starters containing 16 gm. of antibiotic per ton.

MINERALS FOR MEAT ANIMALS—Dr. W. M. Beeson, department of animal science, Purdue University, Lafayette, Ind.: Renewed interest in mineral elements today stems around (1) basic quantitative requirements, (2) availability of different forms, especially phosphorus, (3) interrelationship of different elements and (4) possible relation to unidentified growth factors.

Phosphorus supplied in an available form is one of the "key" elements in the proper fortification of meat animal diets. Most ruminant and nonruminant diets are either deficient or on the borderline of containing adequate amounts of phosphorus. Therefore, it is necessary to add a mineral source of phosphorus to most meat animal rations. Phosphorus is relatively high in protein concentrates, medium in grains and usually low in pasture, silage and hay.

Swine rations high in corn and soybean meal and low in animal byproduct feeds will usually contain from .25-.30% phosphorus, approximately 50% of which is phytin phosphorus which is unavailable. The requirement for a 100-lb. pig is .45% phosphorus. Research has shown that a practical corn-soybean meal diet is deficient in phosphorus for growing-fattening pigs. Raising the phosphorus in the diet from .33 to .45% increased gains 28% on a low protein ration and improved feed efficiency 12%.

Six feeding experiments comparing the availability of phosphorus in various phosphate materials for growing swine have recently been reported. A semi-purified basal diet containing .03% phosphorus was used. The phosphorus supplements studied ranked in the following order: dicalcium phosphate, mono-calcium phosphate and phosphoric acid were equal, followed by steamed bone meal, defluorinated phosphate, then Curacao Island phosphate and finally, soft phosphate, with colloidal clay the poorest.

In addition to phosphorus being a necessary nutrient in the diets of lambs, it has been reported that lambs fed dicalcium phosphate exerted a resistance to the effects of stomach worm infection that was approximately equal to phenothiazine. Best results were obtained from the feeding of a combination of dicalcium phosphate and phenothiazine.

Magnesium

Practical deficiencies of magnesium have not been fully identified under farm, range and feed lot conditions. They may exist, but our knowledge of the requirements and deficiency symptoms in cattle, sheep and swine is very fragmentary.

Research has established that (1) magnesium is an essential mineral for swine for normal growth, (2) a deficiency of dietary magnesium is characterized by weak front pasterns, sickled hocks, bowing back of front legs, hyper-irritability, muscular twitching, arched back and finally, tetany, and (3) the magnesium requirement of young pigs (3-9 weeks) is between 300-400 ppm of the total ration.

Zinc

Many years ago people were disturbed about the possibility of zinc toxicity in animals from the use of galvanized water troughs and feeders. Today we are becoming "zinc conscious" because of the identification of parakeratosis with a lack of available zinc in the diet.

Mineral imbalances, such as high calcium diets (1% calcium), tend to put a pressure or stress condition on the pig, resulting in a higher incidence of parakeratosis. It has been established that this disease was aggravated by feeding excessive amounts of limestone and bone meal. Later studies indicated that 51 ppm zinc would not protect pigs against parakeratosis fed on diets containing 1.5% calcium and .8% phosphorus, but complete protection was afforded by a zinc level of 49 ppm on rations with .98% calcium and .7% phosphorus.

It has been shown that a zinc deficiency and severe symptoms of parakeratosis can be produced in young pigs on low zinc diets (16-36 ppm) containing .6% calcium and .47% phosphorus. The minimum zinc requirement is approximately 46 ppm of total ration for young pigs (10-50 lb.).

It appears now that parakeratosis in swine is a true zinc deficiency and may occur even when all other nutrients are adequately supplied in the proper balance.

Iron and Copper

The confinement of sows and young pigs to concrete has revived the attention to the anemia problem. One thing is for sure, if suckling pigs are confined to concrete without administering an adequate source of iron and copper, they will become anemic. Recently it has been quite obvious that many pigs have sub-clinical cases of anemia which have detracted from their gains and thrift, and have gone undetected.

Sow's milk supplies the pig with about 1 mg. of iron per day. English workers have suggested that the young pig requires the retention of at least 7 mg. of iron daily. Recently injections of iron dextran (2 cc.-100 mg. iron) have been used to prevent anemia in pigs. Calculations indicate that these three sources supply 161 mg. of iron.

If the iron requirement is 7 mg. per day, the pig has only enough iron for 23 days.

Preliminary data on the oral iron requirement of the baby pig (weaned at 6-8 days) has been reported to be about 100 ppm, or 45.4 mg. per pound of total diet.

RECENT ADVANCES IN THE MINERAL NUTRITION OF POULTRY—Dr. L. C. Norris, department of poultry husbandry, Cornell University: Recent evidence indicates that selenium, a mineral element studied extensively because of its toxic properties, is nutritionally essential, since

CONFERENCE SPEAKERS—Speakers at the recent Wisconsin Nutrition Conference in Madison are shown in informal discussions following the conference banquet at Memorial Union, University of Wisconsin, which ended the first-day program of the two-day meeting. They are (left to right): Dr. R. H. Grummer, chairman of the department of animal husbandry at the University of Wisconsin, and general chairman of the conference; I. S. Riggs, chairman of the board of the American Feed Manufacturers Assn. and vice president of the Quaker Oats Co.; Dr. L. C. Norris, department of poultry husbandry, Cornell University; Dr. H. R. Bird, chairman of the poultry husbandry department at Wisconsin; Dr. Paul H. Phillips, biochemistry department at Wisconsin; Dr. W. M. Beeson, department of animal husbandry, Purdue University; Dr. N. N. Allen, Wisconsin dairy husbandry department, and Dr. E. E. Bartley, dairy husbandry department, Kansas State College. Shown talking with Dr. Allen and Dr. Bartley is Al Cummer, Wisconsin Farmco Service, Madison.

it exerts a sparing effect on vitamin E in the prevention of types of vitamin E deficiency originally believed to be due specifically to a lack of this vitamin.

The National Research Council requirement of chicks for calcium is 1%, and that of laying hens, 2.25%. The NRC requirement of both chicks and hens for phosphorus is .6%. The NRC calcium and phosphorus requirements of turkey poults are respectively 2% and 1%, whole those of brooders are respectively 2.25% and .75%. The requirements include a provision that a portion of the phosphorus in both chick and poult starter rations should be inorganic.

In work conducted at Cornell University evidence has been obtained that the NRC requirement of poults for phosphorus is somewhat too high. In this work the phosphorus requirement was found to be not more than .8%. The basal diet fed the poults was of a practical character containing .5% phosphorus. Approximately .15% of this phosphorus was inorganic.

This finding makes the NRC requirement for calcium appear excessive, since there is reason to believe that the calcium-phosphorus ratio for growing animals is not greater than 2:1. The calcium requirement of poults, therefore, is probably more nearly in the neighborhood of 1.4%.

Phosphorus Sources

Research work during the past few years has shown that commercial dicalcium phosphate, defluorinated rock phosphate and steamed bone meal are excellent sources of phosphorus for feeding poultry. While Curacao rock phosphate is a reasonably good source of phosphorus, it is not equal to the first three materials. It has been found that phosphorus of colloidal phosphate is relatively unavailable. The findings on Curacao rock phosphate are contrary to previous ones obtained at Cornell University which indicated that this material was one of the better sources of phosphorus.

Research has indicated that maximum growth in chicks was observed when 100 ppm of supplemental magnesium was given. Greater amounts of magnesium did not influence growth.

Other work on the sodium and potassium requirements of the chick and their interrelationships indicated that the requirement for sodium is between .1-.3%, and that for potassium, between .23-.4%, the larger amount being required for maximum growth.

Potassium Requirement

Recently a somewhat detailed study of the potassium requirement of the chick has been made, using a high energy purified diet containing 10% corn oil. The results showed that there was an interrelationship between the quantity of potassium needed and the level of protein in the diet, larger quantities of potassium being required when the protein was in excess of the needs of the chick for growth.

In another experiment, diets containing 3%, 10% and 20% corn oil were fed in conjunction with excess protein. The results indicate that the potassium requirement of chicks fed high energy rations is between .3-.4% of the diet. This is much less potassium than is found in rations composed of practical ingredients.

At Cornell University evidence has been obtained that a diet containing approximately .6% potassium promoted growth in poults equal to the optimum growth obtained with a similar diet containing 1% potassium. In view of these findings, it seems improbable that practical turkey rations are deficient in potassium since they in general contain .8-.9% of the mineral element.

Recent work has indicated that chicks have a requirement for sulfur as such which may be satisfied either by providing methionine and cystine in excess of that required for protein formation, or by means of sulfur in the form of sulfates.

Bromine, Chlorine and Iodine

Research findings do not show that bromine is an essential nutrient, but the possibility exists that bromine may stimulate chick growth at times through indirect effects on the microorganisms of the intestinal tract. Work at the University of Wisconsin has shown that the chlorine requirement of chicks is less than .6%. Other research has indicated that the use of .5% iodized salt in chick rations should prevent the development of iodine deficiency since this would supply at least 350 ppb. in addition to that contained in the diet.

Summary

During the past few years evidence has been reported on the quantitative requirements of chicks for iodine, magnesium, potassium, sodium and zinc, and evidence of a preliminary character has been obtained on the quantitative requirement for chlorine. Preliminary studies have also been made on the requirements of turkey poults for phosphorus, potassium and zinc.

Further studies on the availability of phosphorus of phosphatic materials used in poultry rations has shown that commercial dicalcium phosphate, defluorinated rock phosphate and steamed bone meal are excellent sources of phosphorus for feeding poultry. Curacao rock phosphorus, contrary to an earlier report, was found to possess a somewhat lower availability while colloidal phosphate had little value.

Cobalt, according to one report, appears to promote chick growth in the absence of vitamin B_{12}. At submarginal quantities of methionine and cystine, sulfur has been discovered to be required as such by the chick, and to spare these amino acids. Bromine has been reported to stimulate chick growth but additional research seems necessary to determine whether or not this is a specific effect.

Molybdenum has been found to be essential in chick nutrition, but the need for supplementing practical chick rations with this mineral appears unnecessary. Selenium has also been shown to exercise vital functions in chick nutrition, but the available evidence indicates that there is exceedingly little possibility of a deficiency occurring in rations composed of practical ingredients.

MINERALS FOR DAIRY CATTLE —Dr. N. N. Allen, department of dairy husbandry, University of Wisconsin: It is of academic interest to know that a mineral is required, but the question that concerns the feeder is whether there is a possibility of shortage under practical feeding conditions, since ordinary feedstuffs contain minerals. The feed industry is likewise concerned primarily with the problem minerals.

The milking cow has very heavy requirements for calcium and phosphorus since milk contains both in substantial amounts. Both minerals require vitamin D for proper use and are required in larger amounts if the diet is low in D. If either is deficient, feeding greater amounts of the other makes the deficiency worse.

In addition to their use in bone building and milk production, both are required in small amounts in the body cells and in the blood. One of the signs of milk fever is low blood calcium, probably due to hormonal causes. High calcium diet will not prevent or cure milk fever, but injecting calcium compounds into the blood stream usually cures it.

Calcium, Phosphorus for Cows

In formulating dairy feeds, there is one very important point to remember. While calcium is required in greater amounts, calcium deficiency is much less common in dairy cattle than is phosphorus deficiency. The reason is that cows are heavy forage eaters and forages, especially legumes, are high in lime. Forages are relatively low in phosphorus, especially if grown on low phosphorus soils.

The calcium takes care of itself since all of the common phosphorus feedstuffs have about twice as much calcium as phosphorus.

The old recommendation for calcium-phosphorus insurance of 1% bone meal, defluorinated phosphate, dicalcium phosphate, or their equivalent in the grain mix is still sound. Calves on low-milk diets also need attention to calcium and phosphorus.

Magnesium is found in fair amounts in the skeleton, and is necessary in the tissues and fluids of the body. Calves fed only milk showed low magnesium levels in their blood and eventually died with convulsions. Similar symptoms with low blood magnesium have occurred in recently fresh cattle on pasture. Like milk fever, this grass tetany may be conditioned by hormonal upsets rather than being a simple deficiency.

Sodium and chlorine commonly require supplementing. For many centuries farmers have salted their cattle. Sodium compounds are important buffering agents in the tissues and blood. Saliva of cattle contains large amounts of sodium compounds which neutralize the acids produced by rumen fermentation of the forage carbohydrates. The chlorine of salt is also essential, though less likely to be critical.

Potash is essential and occurs in animal tissues in fair amounts. But potash is so very abundant in forages that it is hard to conceive of a potash deficiency, and we have no good evidence that it ever becomes a problem mineral. Sulfur likewise is essential, but deficiencies have not been shown.

Of minerals required in smaller amounts, iron is necessary particularly for hemoglobin production and red blood cell function. Calves on milk alone may eventually become anemic since milk is low in iron.

Iodine is required in very small amounts for thyroid function. Wisconsin is a low-iodine area where goiter often occurs in young calves.

Cobalt is another trace mineral that is sometimes a problem in Wisconsin dairy cattle. Its function seems to be tied in with rumen bacteriological activity and vitamin B_{12} production. The symptoms are not clear-cut, but recovery when cobalt is fed is striking.

Copper deficiencies have occurred in Florida but not in Wisconsin. Manganese deficiencies have not been reported in cattle. Zinc is probably required by cattle, but no zinc deficiencies have been found.

MARKETS

(Continued from page 2)

placements have declined steadily over the summer months, broiler prices have declined to 16¢ lb. f.o.b. farm. Placements in the north Georgia broiler producing section were down to 101% of the same week during 1957.

A general feeling of further declines in broiler prices seems to be the general opinion of the feed trade as a whole. Practically all buying both of feed ingredients by purchasing agents and mixed feed by feeders is on a hand-to-mouth basis. With declining poultry and livestock markets, and expectations of abundant feed and grain supplies, practically the entire feeding trade is on the bearish side of the market as far as ingredient and feed prices are concerned. Therefore purchases are only those which are absolutely necessary for spot shipment.

Pastures remain in excellent condition in most areas and some reports indicate that feed business is slow as it normally is for this period, although slightly ahead of last year. Dairy feed business is expected to take an upturn beginning in September.

Feed mill running time is about average for this time of year, and in most cases feed prices have remained steady to slightly lower during the past week. Feed ingredient jobbers and resellers are reported to be having trouble with requests for delayed shipments and failure to receive shipping instructions from feed dealers and manufacturers who are not using the total amount of ingredients which were booked at an earlier date.

The weather has turned moderately cool over most of southeast section of the country but this is not expected to affect the feed situation at this time.

Central States

Feed manufacturers generally agreed business was about as it has been for the past couple of weeks during the week ending Aug. 27. Formula feed sales are still down from the boom period of June and July. However, some mills reported that August was still better than a year ago.

Prices apparently have stabilized for the time being and this was a definite factor in the pace of formula feeds. Mill representatives generally agreed that business would probably go along at a steady pace for the near future.

Hog feeds continued to move well and poultry feeds were holding their own. Dairy feeds were still slow due to good pastures around the area. Mills were operating on a five-day week in most cases, and while some had no backlogs but were operating day to day others reported a day or so of orders.

Ohio Valley

Although formula feed sales continued this week at a somewhat slower pace, the slowdown was anything but drastic, and manufacturers expressed confidence that improved buying trends will be noted following the long Labor Day weekend. A variety of factors contributing to the current situation include the ever-present hope for lower feed prices, family activities in connection with school reopening, and plentiful pasturage and farm crops.

While hog and cattle feeds are now in lesser demand, pickups have been noted in sales of broiler and turkey feeds. The egg market was especially active this week as area farmers refilled incubators. This indicates improving sales of baby chick feeds during the fall months.

Preparatory to the holiday weekend, all valley mills were operated on full five-day schedules this week, to keep order backlogs to a minimum. With retailers' stocks now pretty well depleted, and with fattening feeds likely to be in good demand, a sizeable business pickup is confidently anticipated during coming weeks.

Pacific Northwest

Feed markets averaged stronger, led by wheat millfeeds which advanced $6@6.50 ton during the past week. There were also moderate gains in soybean meal, copra meal, meat and bone meal and alfalfa meal. Exceptions to the steady or upward price trend were whole feed barley and corn which dropped around 50¢ ton for the week.

A good, steady demand continued for feedstuffs, however purchases remained confined to the nearby article with little or no anticipation of forward requirements. Continued dry, hot weather was reflected in the good buying interest as pastures and ranges showed further deterioration and supplemental feeding was near a "winter feeding pace."

Formula feeds continued to move in good volume with some further expansion in dairy feeds due to the poor pastures and in turkey feeds as birds gain in size. There has been little change in formula feed prices for the past several weeks.

Wheat millfeeds were again in the "spotlight" this week with prices jumping upward between trades. Local supplies were practically exhausted and market offerings were limited to supplies shipped in from Montana, Idaho-Utah, Denver and Kansas City area. Heavy export commitments to Japan plus lagging flour trade which reduced production totals were reflected in the tight local supply situation. While there was a sharp increase in mill production of wheat feeds the past week to a total of around 6,400 tons, output in recent weeks has ranged from 4,000-5,000 tons a week and mills reported it was necessary to apply almost the entire output on earlier export sales. Some mills continued to purchase outside feed to fill old orders and there was further widening in the lag on deliveries on old domestic orders.

Soybean meal advanced $1.50 ton this week with offerings from eastern shippers tighter. Offshore copra meal was offered $1 higher, but demand was slow. Other oilseed meals remained unchanged in moderate to slow trading.

Meat meal turned firmer and prices were unchanged to $2.50 up from last week. Fish meal held firm at unchanged prices. Dehydrated alfalfa meal advanced $1.

South Central

Formula feed sales this week have shown a modest improvement. The pick up was believed to be replacement buying for dealer warehouse stocks rather than in response to an increase in feeder demand. One mill spokesman said, "They can't live off their inventory forever."

Plants returned this week to their normal five-day production with some scattered overtime runs added. In addition to the improved demand there is also the necessity of building up warehouse stocks to tide over the approaching Labor Day holiday shutdown.

Turkey feed sales and shipments continue to show a seasonal improvement. Egg feed business is disappointing, but considerable increase is expected in early fall. An encouraging development is the response to promotions on pig feeds. Dealers are laying in substantial inventories in anticipation of heavy trade.

Although many feed ingredient costs have moved upwards this week, price lists are expected to show only minor changes.

INDEX OF ADVERTISERS

The index of advertisers is provided as a service to readers and advertisers. The publisher does not assume any liability for errors or omissions.

Abbott Laboratories
Acadamic Press, Inc.
Aeroglide Corporation
Agricon, Inc.
Agri-Tech, Inc.
Agri-Tec Steel Corp.
Alabama Flour Mills
Albers Milling Co.
Albumina Supply Co., Inc. .. 63
Allied Chemical Corporation, Nitrogen Division .. 22
Allied Mills, Inc.
Amburgo Co., Inc.
American Agri. Chemical Co.
American Cyanamid Co....28, 29
American Dehydrators Assn... 32
American Elev. & Grain Div.
American Mill Serv. Co.
American Poultry & Hatchery Fed.
Anchor Serum Co.
Anderson Box Co.
Andersons, The .. 46
Anderson, V. D., Co. .. 16
Andrews Machine Co.
Arbor Acres Farm .. 46
Archer-Daniels-Midland Co. ..
Arkansas Rice Growers Coop. Assn.
Arkell & Smiths
Armour & Co. .. 53
Aubrey Feed Mills

Babcock Poultry Farms
Baker, H. J., & Bro. .. 39
Baker, J. T., Chem. Co.
Barnard & Leas Mfg. Co., Inc. 48
Baroid Division, National Lead Co.
Bartlett, C. O., & Snow Co... 52
Barton Salt Co., The
Bates Grain Co.
Baughman Mfg. Co., Inc.
Baxter, A. E., Engineering Co.
Beardstown Mills
Bemis Bro. Bag Co.
Berg, Paul
Bigelow Sales Co. .. 77
Black, Sivalls & Bryson, Inc. .
Blatchford Calf Meal Co. ... 54
Blomfield-Swanson
Borden Company .. 25
Bosworth Commission Co. ...
Bowman Feed Prod., Inc. ...
Bradley & Baker
Bremco Alfalfa Mills, Inc. ...
Brewers Yeast Council, Inc. .
Brower Manufacturing Co. .. 31
Brown, Fred G., Pulv. Co. ..
Bruce Milling Co.
Bryant Engineering Co.
Burlap Council, The
Burrell, James H., & Co., Inc.
Burrows Equipment Co. .. 73
Burrus Feed Mills .. 60
Butler Chemical Co.
Butler Mfg. Co.

C-K Processing Co.
Calcium Carbonate Co. .. 24
California Pellet Mill Co. ... 16
Caple, A. B., Co.
Carey Grain Corp.
Cargill, Inc. .. 27
Carson Food Co. .. 36
Chambers, John C., Co.
Champion Portable Mill Co... 14
Chantland Mfg. Co.
Chase Bag Co. .. 46
Checkerboard Grain Co. .. 78
Chemo Puro Mfg. Corp.
Chicago Feed Ingredient Co.
Citrus Processors Assn.
Cleveland Vibrator Co., The .
Clinton Corn Processing Co. .
Clofine, Herbert K.
Colby Milling, Inc.
Collier Livestock-Feeder Co. .
Colonial Poultry Farms
Columbia Phosphate Co. .. 30
Columbia Quarry Co. .. 11
Columbian Steel Tank Co. ...
Commercial Solvents Corp., 12, 13
Consolidated Blenders, Inc. .. 77
Consumers Soybean Mills
Continental Grain Co. .. 77
Corn Products Sales Co.
Coronet Phosphate Co. .. 65
Crete Mills .. 10
Cromwell Paper Co.
Crown Zellerbach Corp.
Cummings Schooler Co.

D. C. A. & Co.
Daffin Mfg. Co.
Dannen Mills, Inc. .. 70
Davis, H. C., Sons' Mfg. Co.
Dawe's Laboratories, Inc..... 17
Day Company, The
Daycom, Inc. .. 11
Delaware Poultry Laboratories
Devold, Peder, Oil Co.
Diamond V Mills, Inc.
Distillation Products Industries 63
Distillers Feed Research Council
Doane Agricultural Serv., Inc.
Doane Feed Products Co.
Dorsey Trailers
Doty Laboratories
Douglas Chemical Co.
Dow Chemical Co.
Duplex Mill & Mfg. Co. .. 35
Du Pont de Nemours & Co., Inc., E. I. .. 59

Early & Daniel Co.
Eastman Chemical Prod., Inc.
Ehrsam, J. B., & Sons Mfg. Co., The
Elam Grain Co. .. 48
Entoleter Division, Safety Industries, Inc.
Eriez Mfg. Co. .. 74
Eschenheimer, Rudy, Co. .. 64
Eshelman, John W., & Sons .
Ewing, Ray, Co. .. 10

Farm Journal
Farmers Mutual Hail Ins. Co. of Iowa
Feed Service Corp.
Fischbein, Dave, Co.
Flavor Corp. of America ... 74
Flour Mills of America
Food Mach. & Chem. Corp. .
Forster Mfg. Co. .. 41
Fox Co. .. 30
Fox Valley Milk Feeds, Inc. .
Fruen Milling Co. .. 7

Gaddis Bros. Mfg. Co.
Geerlings Feed Mills
Glidden Co., The
Gold Kist Peanut Growers ..
Gorton-Pew Fisheries .. 78
Grace Chemical Co.
Grain Processing Corp. .. 58
Grand River Chem. .. 55
Griffith Labs., Inc.
Gump, B. F., Co.

Hales & Hunter Co.
Hallet & Carey Co.
Hand, Peter, Foundation .. 3
Hardy, H. E., & Co.
Hardy Salt Co.
Harris-Crane, Inc.
Harshaw Chemical Co.
Hawthorne Co.
Hayes and Stolz .. 74
Haynie Menhaden Prod., Inc.
Heard-Kinard-Smith, Inc.
Heck, Edward J., & Sons Co.
Heil Co., The
Helix Corp. .. 68
Helm Manufacturing Co. .. 64
Henderson Mfg. Co.
Henke Mfg. Co. .. 56
H. Hentz & Co.
Hercules Powder Co.
Hess & Clark, Inc. .. 37
Heterochemical Corp. .. 27
Highway Equipment Co.
Hilltop Laboratories
Hoffman-Taff, Inc. .. 68
Hogenson Const. Co. .. 14
Hogg, N. D., Ltd.
Holt Products Co.
Homer Mfg. Co., Inc., The .
Honeggers' & Co. .. 22
Honeymead Products Co.
Hot Spot Detector
Howes, S., Co., Inc.
Hubbard Milling Co.
Hubbell, Charles H.
Hygeno Litter Co.
Hy-Line Poultry Farms

Ibberson, T. E., Co.
Illinois Soy Products Co. .. 45
Indian Jute Mills Assn.
Industrial Commodity Corp.
Industrial Molasses Corp. ...
International Machinery Dev. Corp.
International Minerals & Chemical Corp. .. 5
International Paper Co.
International Salt Co., Inc. .. 47
Iowa Limestone Co.
Iowa Portable Mill Co. .. 22

Jackson, Gilbert, Co., Inc. .. 58
Jacobson Machine Works .. 69
James Mfg. Co.
Jersee Co. .. 71
Johns-Manville
Jones-Hettelsater Const. Co.

Kalo Co.
Kansas Soya Prod. Co., Inc... 68
Kees & Company .. 22
Kellogg, Spencer, & Sons, Inc.
Kem Mfg. Co.
Kemp, C. M., Mfg. Co.
Kent Feeds
Kent, Percy, Bag Co., Inc.
Key Alfalfa Dehydrators
Keystone Steel & Wire Co.
Kilby Steel
Kindstrom-Schmoll Co.
Koelsch, Charles J., Grain Co.
Koppers Co., Inc.
Kraft Bag Corp.
Kraft Foods Co.
Kuss, R. L., & Co., Inc.

Laboratory Construction Co.
LaBudde Feed & Grain Co. .. 40
Land O'Lakes Creameries, Inc.
Landers Mill Mfg. Co.
Lathrop's Hatchery, Inc.
Lauhoff Grain Co.
Leach Mfg. Co. .. 71
Leftwich, J. H., & Co., Inc... 58
LeGear, Dr., Inc.
Lennox Industries, Inc.
Levens Mfg. Co.
Lilly, Eli, & Co. .. 57
Lima Armature Works
Limestone Products Corp. of America .. 68
Linck, O. E., Co., Inc.
Loncala Phosphate Co. .. 32
Longhorn Eng. Co.

M-G-R Feed Co., Inc.
McCabe Grain Co., Ltd.
McCall, Tom, & Associates, Inc.
McClelland, M. A.
McMillen Feed Mills
Magnus, Mabee & Reynard
Maney Bros. Mill & Elev. Co. .. 4, 78
Marco Chemical Co. .. 45
Martenis, C. J., Grain Co.
Martin, Theo. W., & Son
Mathews Co.
Mayo Shell Corp. .. 66
Melos Mfg. Co.
Merchants Chemical Co., Inc. 64
Merck & Co. 20, 21, 33, 34
Mid-Continent Grain Co. .. 16
Midland Western .. 77
Midwest Alfalfa Co.
Mid-West Business Exchange .. 72
Midwest Dried Milk Co. .. 64
Milbrew Co.
Mill & Elevator Co.
Miller Manufacturing Co.
Miller, Mel, & Co., Inc. .. 4
Miller Publishing Co., The ..
Milligan & Son
Minneapolis Sewing Mach. Co.
Minnesota Linseed Oil Co. .. 66
Minnesota Specialty Co., Inc.
Monsanto Chemical Co.
Morse Boulger Destructor Co.
Motomco, Inc.
Morton Salt Co. .. 61
Murphy Products Co.
Myers-Sherman Co. .. 71

Nagel, Herman, Co. .. 41
Natl. Alfalfa Dehydrating & Mfg. Co.
Natl. Cottonseed Prod. Assn., Inc.
Natl. Distillers Prod. Co.
National Lead Co.
National Molasses Co.
National Renderers Assn. .. 18
National Oats Co.
National Feed Ingred. Assn... 15
National Turkey Federation
Underwriters
National Vitamin Products Co.
Nellis Feed Co. .. 41
New Century Co., The
New England By-Prod. Corp.. 78
Nichols, Incorporated
Nootbaar, H. V., & Co.
Nopco Chemical Co. .. 36
North American Dodgen Co. .
North American Mfg. Co. .. 11
North American Trading & Import Co. .. 49
North Carolina Granite Corp.
North East Feed Mill Co. ...
Northwest Brewers Yeast, Inc.
Nor-Vell, Inc.
Nutrena Mills, Inc. .. 27
Nutri-Lab Mixing Corp.

Oakes Mfg. Co.
Olavarria & Co., Inc.
Omega Machine Co., Div. of B-I-F Industries, Inc. ...
Oyster Shell Corp. .. 10
Oyster Shell Prod. Co. .. 46

Pabst Brewing Co
Panogen, Inc.
Paper-Calmenson & Co.
Park, Philip R., Inc.
Parks, J. P., Co.
Parrish & Heimbecker
Parrish, N. K.
Paxton Processing Co. .. 73
Pay Way Feed Mills, Inc. ...
Peavey, F. H., & Co. .. 40
Peerless Equip. Co., Inc. ...
Penick, S. B., & Co.
Permco Mfg. Co.
Pfizer, Chas., & Co. 42, 43
Phelps Dodgen Refining Corp.
Pillsbury Mills, Inc.
Pittsburgh Plate Glass Co. .. 35
Pless & Sheahan
Prater Pulverizer Co. .. 24
Pratt Labs., Inc.
Productive Acres Mfg. Co. .. 54
Publicker Industries, Inc. ...

Quaker Oats Co.
Quisenberry Mills .. 82

Ralston Purina Co. .. 19
Ranger Equipment Co.
Rapids Machinery Co. .. 32
Raymond Bag Corporation ...
Read, Gladwin A., Co.
Rees Blow Pipe Mfg. Co. 58
Red River Alfalfa Co.
Red Star Yeast & Prod. Co. .
Reliance Feed Co. .. 46
Rhodia, Inc.
Richardson, James & Sons ..
Richardson Scale Co. .. 44
Riley Feed Co.
Rion Crush Stone Corp.
Ripco, Inc.
River Rest Turkey Sales, Inc.
Robinson Conveyor Systems .
Rohloff Bros., Inc.
Rolfes Grain Aeration Co.
Roskamp Huller Mfg. Co., Inc.
Rosner-Hixson Laboratories ..
Ross Machine & Mill Supply .
Ruttger's Minnesota Lodges ..
Ryde & Co.

St. Regis Paper Co.
Safety Industries, Inc.
Salsbury's, Dr., Labs.
Save-Way Feed Mills .. 53
Scanlan, Ivan, & Co.
Schenley Distillers, Inc. .. 48
Schipke, Henry, & Assoc.
Schuster-Wise Gr. & Feed Co.
Schutte Pulverizer Co., Inc... 27
Scroggins Grain Co. .. 18
Seagram, Joseph E., & Sons, Inc.
Seco, Inc. .. 58
Sedberry, J. S., Inc. .. 66
Seedburo Equipment Co. 60, 70, 72
Service Bureau Corp. .. 9
Sheahan, Robert F.
Shell Chemical Co.
Shellbuilder Co. .. 41
Sievert, C. W., & Associates
Simonsen Mfg. Co.
Small, The W. J., Co. .. 4
Smith, Edward E., & Co.
Soft Phosphate Research Inst.
Soluble Nutrients, Inc.
Southwest Mill Supply Co. .. 73
Sparks-Waters-Farnen, Inc. ..
Special Products, Inc.
Specifide, Inc.
Spencer Kellogg & Sons, Inc.
Springer Pub. Co.
Sprout, Waldron & Co., Inc.. 51
Squibb, E. R., & Sons
Stabilized Vitamins, Inc.
Staley, A. E., Mfg. Co.
Staley Milling Co.
Standard Brands, Inc. ..22, 53, 73
Standard Feed & Fert., Inc.
Stauffer Chemical Co.
Stephens-Adamson Mfg. Co.
Sterwin Chemicals Inc. .. 23
Stone Mountain Grit Co.
Strong-Scott Mfg. Co.
Sudenga Industries
Sunset Feed & Grain Co.
Superior Feed Co.
Swanson, Carroll, Sales Co. ..
Swift & Co. .. 40
Syntha Lab.

T. D. F. Company
Tamms Industries
Taste Engineering, Inc. .. 7
Texas Mill Equipment Co. ...
Thayer Scale Corp.
Thomer Equipment Co.
Thompson Printing Co.
Ti-Co Industries
Tobias Enterprises .. 45
Toxite Laboratories
Truck Grain Blower Co.

Ultra-Life Laboratories, Inc... 18
Union Bag-Camp Paper Corp.
Union Special Machine Co. ..
U. S. Industrial Chem. Co. ...
Universal Hoist Co.
Upjohn Company, The

Van Camp Lab.
Van Dusen Harrington Co. .. 40
Vantress, Chas., Farms, Inc. .
Van Waters & Rogers, Inc. ..
Vineland Laboratories, Inc. ..
Vitamins, Inc. .. 14
Vitaway, Inc. .. 67
Vitron Corp.
Vy Lactos Laboratories, Inc... 71

W-W Grinder Corporation ... 36
Wallace & Tiernan Inc. 56
Warren-Douglas Chemical Co. 32
Weller, B. I., Co.
Wells, Ralph, & Co.
Wenger Mixer Mfg. Co. 63
Wertz Feed Co. .. 24
Western Condensing Co. ....
Western Yeast Co.
West Virginia Pulp & Paper Co.
White Laboratories, Inc. ....
White Shell Corp.
Whitmoyer Laboratories, Inc.. 40
Whitten Co. .. 35
Wilhoit Laboratory .. 60
Wilson & Co., Inc.
Wilson, R. S., Co. .. 58
Wirthmore Feeds
Wisconsin Alumni Research Foundation 30, 31, 44
Woodington Elev.
Woodward & Dickerson, Inc. .

Younglove Construction Co. .
Young, John F., Co.

Zellers' Laboratories

38 YEARS of QUALITY and SERVICE

QuisenBerry
FEEDS

MONEY BACK GUARANTEE

DISTRIBUTORSHIPS OPEN

"NEWER MERCHANDISING BUILDS VOLUME AND PROFITS"

Call Jackson 3-5210 at Kansas City,
or Write Quisenberry Mills, Inc.
8521 Prospect, K. C. 30, Mo.